

Note remarks

Edition	: 04.10.96
Test oil	: ISO 4113
Combination No.	: 9 400 087 500
Injection pump	
Pump designation	: PES6P120A720LS7257
	: -10
EP type number	: 9 400 087 086
Governor	
Governer design.	: RQV300...950PA1242
Governer no.	: 9 420 080 387
Cust. part No.	: 0260746602

Customer : MBB
Motor : OM 447 LA
Power KW : 264.8

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure : 208.5
Tolerance bar : \pm 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

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x inside diameter :      3.0
x length mm       : 1000
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(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

Test pressure bar : 26.0
Tolerance bar : \pm 1.0

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Prestroke mm      : 4.65
Tolerance mm      : + 0.05
Check
tolerance mm      : + 0.10
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Rack travel in mm : 21.00

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance *NW : + 0.50

Rated speed rpm : 600

Rack travel in mm : 14.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 275.5

$$\text{cm}^3/1000 \text{ strokes} : \pm 1.0$$

Check tolerance
cm³/1000s. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50

Tolerance mm : ± 0.10

Del. quantity

cm³/1000 strokes : 16.5

cm³/1000 strokes : ± 3.0

Check tolerance

cm³/1000S. : ± 6.0

Spread

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050

guide sleeve

travel mm : 7.80

Tolerance mm : ± 0.10

Rated speed rpm : 700

guide sleeve

travel mm : 5.45

Tolerance mm : ± 0.25

Rated speed rpm : 300

guide sleeve

travel mm : 0.75

Tolerance mm : ± 0.25

Rated speed rpm : 500

guide sleeve

travel mm : 3.55

Tolerance mm : ± 0.25

Rated speed rpm : 1165

guide sleeve

travel mm : 9.45

Tolerance mm : ± 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 16.50

Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600

Aneroid pressure

hPa : 1300

Del. quantity

cm³/1000 strokes : 275.5

cm³/1000 strokes : ± 1.0

Check tolerance

cm³/1000S. : ± 4.0

Spread

cm³/1000 strokes : 5.0

Check tolerance

cm³/1000S. : 9.0

CONTROL LEVER

control lever

position degree : 52.0

tolerance degree : ± 4.0

control lever

position degree : 117.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.60

Rated speed rpm : 1000

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1125

Tolerance 1/min : ± 15

rack travel mm : 0.50

Tolerance mm : ± 0.50

Rated speed rpm : 1230

LOW IDLE

control lever

position degree : 82.0

tolerance degree : ± 4.0

control lever

position degree : 17.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 5.50

Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 9.20

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.25
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.65
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.25
Tolerance mm : \pm 0.05

Rated speed rpm : 840
rack travel mm : 13.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1300
rack travel mm : 14.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 760
rack travel mm : 2.25
Tolerance mm : \pm 0.15

Pressure hPa : 500
rack travel mm : 0.90
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80

Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 245.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : 1300
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 265.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 146.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1000
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 236.0

cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 16.5
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113

Combination No. : 9 400 087 501

Injection pump
Pump designation : PES5P120A720LS7280
EP type number : 9 400 087 087

Governor
Governor design. : RQV300...950PA1249
Governor no. : 9 420 080 389

Cust. part No. : 4750747302

Customer-spec. information
Customer : MBB
Motor : OM 449 LA-EURO I
Power KW : 220.7

TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 263.5
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm	:	5.30
Tolerance mm	:	+ 0.10
Del. quantity		
cm3/1000 strokes	:	17.0
cm3/1000 strokes	:	+ 3.0
Check tolerance		
cm3/1000S.	:	+ 6.0
Spread		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	1050
guide sleeve		
travel mm	:	7.80
Tolerance mm	:	+ 0.10

Rated speed rpm	:	700
guide sleeve		
travel mm	:	5.45
Tolerance mm	:	+ 0.25

Rated speed rpm	:	300
guide sleeve		
travel mm	:	0.75
Tolerance mm	:	+ 0.25

Rated speed rpm	:	500
guide sleeve		
travel mm	:	3.55
Tolerance mm	:	+ 0.25

Rated speed rpm	:	1165
guide sleeve		
travel mm	:	9.45
Tolerance mm	:	+ 0.25

GUIDE SLEEVE POSITION

Rated speed rpm	:	1120
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Rack travel in mm	:	16.50
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure		
hPa	:	1300

Del. quantity		
cm3/1000 strokes	:	263.5
cm3/1000 strokes	:	+ 1.0
Check tolerance		
cm3/1000S.	:	+ 4.0
Spread		
cm3/1000 strokes	:	5.0
Check tolerance		
cm3/1000S.	:	9.0

CONTROL LEVER

control lever		
position degree	:	52.0
tolerance degree	:	+ 4.0

control lever		
position degree	:	117.0
tolerance degree	:	+ 4.0

RATED SPEED

rack travel mm	:	12.70
Rated speed rpm	:	995
Tolerance 1/min	:	+ 5

rack travel mm	:	4.00
Rated speed rpm	:	1125
Tolerance 1/min	:	+ 15

rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1250

LOW IDLE

control lever		
position degree	:	83.0
tolerance degree	:	+ 4.0

control lever		
position degree	:	18.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.30
Tolerance mm	:	+ 0.10

Rated speed rpm	:	100
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CRT mm min.	:	> 9.00
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Rated speed rpm	:	325
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TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.75
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.75
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1300
rack travel mm : 13.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 2.85
Tolerance mm : \pm 0.15

Pressure hPa : 480
rack travel mm : 0.90
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 256.0
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 121.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

BREAKAWAY

Rack travel in mm : 12.70
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 250.0
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 17.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113
Combination No. : 9 400 087 502
Injection pump
Pump designation : PES6P120A720LS7257
: -10
EP type number : 9 400 087 086
Governor
Governor design. : RQV300...950PA1262
Governor no. : 9 420 080 394
Cust. part No. : 0260749902

Customer-spec. information

Customer : MBB
Motor : OM 447 LA
Power KW : 301.6

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 2.0
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

A08

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 21.00
Firing order : 6- 2- 4- 1- 5-
: 3
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 600
Rack travel in mm : 14.65
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 301.5
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0
Rated speed rpm : 300

Rack travel in mm	:	5.50
Tolerance mm	:	± 0.10
Del. quantity		
cm ³ /1000 strokes	:	17.0
cm ³ /1000 strokes	:	± 3.0
Check tolerance		
cm ³ /1000S.	:	± 6.0
Spreed		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	1050
guide sleeve		
travel mm	:	7.80
Tolerance mm	:	± 0.10

Rated speed rpm	:	700
guide sleeve		
travel mm	:	5.45
Tolerance mm	:	± 0.25

Rated speed rpm	:	300
guide sleeve		
travel mm	:	0.75
Tolerance mm	:	± 0.25

Rated speed rpm	:	500
guide sleeve		
travel mm	:	3.55
Tolerance mm	:	± 0.25

Rated speed rpm	:	1165
guide sleeve		
travel mm	:	9.45
Tolerance mm	:	± 0.25

GUIDE SLEEVE POSITION

Rated speed rpm	:	1120
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Rack travel in mm	:	16.50
Tolerance mm	:	± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	600
Aneroid pressure		
hPa	:	1400

A09

Del. quantity		
cm ³ /1000 strokes	:	301.5
cm ³ /1000 strokes	:	± 1.0
Check tolerance		
cm ³ /1000S.	:	± 4.0
Spreed		
cm ³ /1000 strokes	:	5.0
Check tolerance		
cm ³ /1000S.	:	9.0

CONTROL LEVER

control lever		
position degree	:	52.0
tolerance degree	:	± 4.0

control lever		
position degree	:	118.0
tolerance degree	:	± 4.0

RATED SPEED

rack travel mm	:	13.60
Rated speed rpm	:	990
Tolerance 1/min	:	± 5

rack travel mm	:	4.00
Rated speed rpm	:	1130
Tolerance 1/min	:	± 15

rack travel mm	:	0.50
Tolerance mm	:	± 0.50
Rated speed rpm	:	1250

LOW IDLE

control lever		
position degree	:	82.0
tolerance degree	:	± 4.0

control lever		
position degree	:	17.0
tolerance degree	:	± 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.50
Tolerance mm	:	± 0.10

Rated speed rpm	:	100
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CRT mm min.	:	> 8.50
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Rated speed rpm	:	325
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TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.65
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 14.65
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.65
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400
rack travel mm : 14.65
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 1000
rack travel mm : 2.75
Tolerance mm : \pm 0.15

Pressure hPa : 660
rack travel mm : 1.00
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 950

Del. quantity
cm³/1000 strokes : 284.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : 1400
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 293.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 146.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 990
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 17.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113
Combination No. : 9 400 087 503
Injection pump
Pump designation : PES5P120A720LS7280
EP type number : 9 400 087 087
Governor
Governor design. : RQV300...950PA1263
Governor no. : 9 420 080 392
Cust. part No. : 0270740102

Customer-spec. information
Customer : MBB
Motor : OM 449 LA-EURO I
Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 901 105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 4.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 5- 4- 2
Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 600
Rack travel in mm : 13.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 246.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 4.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0
Rated speed rpm : 300

Rack travel in mm : 5.30
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 11.5
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 6.0
 Spreed
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1050
 guide sleeve
 travel mm : 7.80
 Tolerance mm : \pm 0.10

Rated speed rpm : 700
 guide sleeve
 travel mm : 5.45
 Tolerance mm : \pm 0.25

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.75
 Tolerance mm : \pm 0.25

Rated speed rpm : 500
 guide sleeve
 travel mm : 3.55
 Tolerance mm : \pm 0.25

Rated speed rpm : 1165
 guide sleeve
 travel mm : 9.45
 Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 16.50
 Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
 Aneroid pressure
 hPa : 1200

Del. quantity
 cm³/1000 strokes : 246.0
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

CONTROL LEVER

control lever
 position degree : 52.0
 tolerance degree : \pm 4.0

control lever
 position degree : 117.0
 tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.10
 Rated speed rpm : 1005
 Tolerance 1/min : \pm 5

rack travel mm : 4.00
 Rated speed rpm : 1125
 Tolerance 1/min : \pm 15

rack travel mm : 0.50
 Tolerance mm : \pm 0.50
 Rated speed rpm : 1220

LOW IDLE

control lever
 position degree : 83.0
 tolerance degree : \pm 4.0

control lever
 position degree : 18.0
 tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 5.30
 Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 8.00

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.15
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 13.15
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.45
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.45
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 700
rack travel mm : 1.75
Tolerance mm : \pm 0.15

Pressure hPa : 500
rack travel mm : 0.60
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 232.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 243.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 149.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1005
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0

cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 11.5
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113

Combination No. : 9 400 087 504

Injection pump
Pump designation : PES5P120A720LS7280
EP type number : 9 400 087 087

Governor
Governor design. : RQV300...950PA1264
Governor no. : 9 420 080 393

Cust. part No. : 0270740002

Customer-spec. information
Customer : MBB
Motor : OM 449 LA-EURO I
Power KW : 235.4

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.15
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 286.5
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Speed
cm3/1000 strokes : 5.0

Check tolerance
cm3/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm	:	5.10
Tolerance mm	:	+ 0.10
Del. quantity		
cm ³ /1000 strokes	:	10.5
cm ³ /1000 strokes	:	+ 3.0
Check tolerance		
cm ³ /1000S.	:	+ 6.0
Speed		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	1050
guide sleeve		
travel mm	:	7.80
Tolerance mm	:	+ 0.10

Rated speed rpm	:	700
guide sleeve		
travel mm	:	5.45
Tolerance mm	:	+ 0.25

Rated speed rpm	:	300
guide sleeve		
travel mm	:	0.75
Tolerance mm	:	+ 0.25

Rated speed rpm	:	500
guide sleeve		
travel mm	:	3.55
Tolerance mm	:	+ 0.25

Rated speed rpm	:	1165
guide sleeve		
travel mm	:	9.45
Tolerance mm	:	+ 0.25

GUIDE SLEEVE POSITION

Rated speed rpm	:	1120
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Rack travel in mm	:	16.50
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	600
Aneroid pressure		
hPa	:	1300

Del. quantity		
cm ³ /1000 strokes	:	286.5
cm ³ /1000 strokes	:	+ 1.0
Check tolerance		
cm ³ /1000S.	:	+ 4.0
Speed		
cm ³ /1000 strokes	:	5.0
Check tolerance		
cm ³ /1000S.	:	9.0

CONTROL LEVER

control lever		
position degree	:	53.0
tolerance degree	:	+ 4.0

control lever		
position degree	:	118.0
tolerance degree	:	+ 4.0

RATED SPEED

rack travel mm	:	12.80
Rated speed rpm	:	1010
Tolerance 1/min	:	+ 5

rack travel mm	:	4.00
Rated speed rpm	:	1130
Tolerance 1/min	:	+ 15

rack travel mm	:	0.50
Tolerance mm	:	+ 0.50
Rated speed rpm	:	1220

LOW IDLE

control lever		
position degree	:	82.0
tolerance degree	:	+ 4.0

control lever		
position degree	:	17.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	300
rack travel mm	:	5.10
Tolerance mm	:	+ 0.10

Rated speed rpm	:	100
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CRT mm min.	:	> 8.00
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Rated speed rpm	:	325
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TORQUE CONTROL

Rated speed rpm : 600
rack travel mm : 14.15
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 13.85
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 13.85
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.15
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 14.15
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1300
rack travel mm : 14.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 940
rack travel mm : 2.35
Tolerance mm : \pm 0.15

Pressure hPa : 600
rack travel mm : 0.70
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 264.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : 1300
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 280.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 5.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 149.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1010
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0

cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000s. : ± 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 10.5
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.10.96
Test oil : ISO 4113
Combination No. : 0 400 876 261
Injection pump
Pump designation : PES6A90D410RS2293
EP type number : 0 410 896 031
Governor
Governor design. : RSV350...750A0C741L
Governor no. : 0 420 232 414

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 352 A
Power KW : 62.5

TEST BENCH REQUIREMENTS

Inlet line : 1.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 922 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 003
Outside diameter : 6.0

A20

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 10.95
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 64.0
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000S. : ± 3.0
Speed
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000S. : 7.0
Rated speed rpm : 350
Rack travel in mm : 8.00
Tolerance mm : ± 0.10

Del. quantity
 cm³/1000 strokes : 21.0
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 64.0
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 7.0

CONTROL LEVER

control lever
 position degree : 81.0
 tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
 rack travel mm : 9.90
 Rated speed rpm : 792
 Tolerance 1/min : + 4
 rack travel mm : 4.00
 rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 820

Rated speed rpm : 751
 rack travel mm : 9.90

Rated speed rpm : 793
 Tolerance 1/min : + 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 820

Rated speed rpm : 752
 rack travel mm : 9.90

Rated speed rpm : 794
 Tolerance 1/min : + 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 820

Rated speed rpm : 753
 rack travel mm : 9.90

Rated speed rpm : 795
 Tolerance 1/min : + 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 820

Rated speed rpm : 754
 rack travel mm : 9.90

Rated speed rpm : 796
 Tolerance 1/min : + 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 820

Rated speed rpm : 755
 rack travel mm : 9.90

Rated speed rpm : 797
 Tolerance 1/min : + 4
 rack travel mm : 4.00

rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 820

LOW IDLE

control lever
position degree : 69.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 8.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400
rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 10.95
Tolerance mm : \pm 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 83.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000s. : \pm 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 21.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.96
Test oil : ISO 4113

Combination No. : 0 402 066 702

Injection pump
Pump designation : PES6P110A120RS3336
: -1
EP type number : 0 412 016 751

Governor
Governor design. : RSV550...1100P2A586
: -1
Governor no. : 0 421 833 480

Cust. part No. : 3926887

Customer-spec. information
Customer : CDC
Motor : 6CTA
Power KW : 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00
Tolerance : ± 0.50
Check
tolerance *NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack
travel : 15.00
Difference * CS : 1.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.25
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 188.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 550

Rack travel in mm : 5.10
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 26.5
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spreed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 188.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 96.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.25
Rated speed rpm : 1185

Tolerance 1/min : \pm 5

rack travel mm : 7.80
Rated speed rpm : 1235

Tolerance 1/min : \pm 5

rack travel mm : 0.85
Tolerance mm : \pm 0.55

Rated speed rpm : 1390

LOW IDLE

control lever
position degree : 67.5

tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 550

rack travel mm : 4.60

Testing:

Rated speed rpm : 550

rack travel mm : 5.10

Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.25
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1500

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 11.10
Tolerance mm : ± 0.20

Rated speed rpm : 1000

Pressure hPa : 995
rack travel mm : 13.45
Tolerance mm : ± 0.20

Pressure hPa : 655
rack travel mm : 12.05
Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 123.5
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.25
Rated speed rpm : 1185
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00

A25

Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 154.0
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 26.5
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 08.10.96
Test oil : ISO 4113

Combination No. : 0 402 746 615

Injection pump
Pump designation : PES6P120A320RS7419
EP type number : 0 412 726 961

Governor
Governor design. : RQV300...1300PA1289K
Governor no. : 0 421 815 520

Cust. part No. : 386 6800

Customer-spec. information
Customer : CDC
Motor : 6CTA
Power KW : 249.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 12.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.60
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	203.5
<hr/>	
cm ³ /1000 strokes :	± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	± 4.0
<hr/>	
Spreed	
cm ³ /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	12.0
<hr/>	
Rated speed rpm :	300
<hr/>	
Rack travel in mm :	6.35
Tolerance mm :	± 0.20
Del. quantity	
cm ³ /1000 strokes :	32.5
cm ³ /1000 strokes :	± 3.0
Check tolerance	
cm ³ /1000S. :	± 5.0
Spreed	
cm ³ /1000 strokes :	5.0
Check tolerance	
cm ³ /1000S. :	8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve	
travel mm :	1.29
Tolerance mm :	± 0.20

Rated speed rpm :	1372
guide sleeve	
travel mm :	9.86
Tolerance mm :	± 0.15

Rated speed rpm :	917
guide sleeve	
travel mm :	6.76
Tolerance mm :	± 0.25

Rated speed rpm :	590
guide sleeve	
travel mm :	4.95
Tolerance mm :	± 0.25

Rated speed rpm :	1710
guide sleeve	
travel mm :	13.50

Tolerance mm :	± 0.50
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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1200
Aneroid pressure	
hPa :	1200
Del. quantity	
cm ³ /1000 strokes :	203.5
cm ³ /1000 strokes :	± 1.0
Check tolerance	
cm ³ /1000S. :	± 4.0
Spreed	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S. :	12.0

CONTROL LEVER

control lever	
position degree :	117.0
tolerance degree :	± 4.0

RATED SPEED

rack travel mm :	11.60
Rated speed rpm :	1320
Tolerance 1/min :	± 5

rack travel mm :	4.00
Rated speed rpm :	1470
Tolerance 1/min :	± 15

rack travel mm :	0.50
Tolerance mm :	± 0.50
Rated speed rpm :	1575

LOW IDLE

control lever	
position degree :	75.0
tolerance degree :	± 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	6.35
Tolerance mm :	± 0.20

Rated speed rpm :	250
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CRT mm min. :	> 7.80
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Rated speed rpm :	450
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TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 12.60
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.20
Tolerance mm : \pm 0.10

Rated speed rpm : 1100
rack travel mm : 12.55
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 670
rack travel mm : 11.80
Tolerance mm : \pm 0.20

Pressure hPa : 385
rack travel mm : 10.50
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 206.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 122.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1320
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 9.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 176.5
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 32.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.96
Test oil : ISO 4113
Combination No. : 0 402 996 312
Injection pump
Pump designation : PES6P120A720RS8512
EP type number : 0 412 926 215
Governor
Governor design. : RE30
Governor no. : 0 421 890 024

Cust. part No. : 313 GC 5225 P1

Customer-spec. information
Customer : MACK
Motor : E7

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 3 413 359 008

Inlet press. bar : 3.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

B01

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 12.00
Tolerance mm : ± 0.20

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min⁻¹ : 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00

Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(ALL P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference

Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 900
Uact V : 3.050
Del. quantity
cm³/1000 strokes : 310.0
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 625
Uact V : 3.260
Del. quantity
cm³/1000 strokes : 392.0
cm³/1000 strokes : +/- 10.0
Check tolerance
cm³/1000S. : +/- 12.0
Spreed
cm³/1000 strokes : 16.0
Check tolerance
cm³/1000S. : 18.0

TEST POINT L1

Rated speed rpm : 325
Rated speed rpm : 325
Uact V : 1.310
Uact V : 1.310
Tolerance Volt : +/- 0.060
Check tolerance
Volt : +/- 0.070
Del. quantity
cm³/1000 strokes : 33.0
Del. quantity
cm³/1000 strokes : 33.0
cm³/1000 strokes : +/- 3.0
cm³/1000 strokes : +/- 3.0
Spreed
cm³/1000 strokes : 6.0
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 14.0
Check tolerance
cm³/1000S. : 14.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Uact V	:	4.700
Del. quantity		
cm ³ /1000 strokes	:	195.0
cm ³ /1000 strokes	:	+ 19.0
Check tolerance		
cm ³ /1000S.	:	+ 22.0
Spreed		
cm ³ /1000 strokes	:	40.0
Check tolerance		
cm ³ /1000S.	:	50.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.09.96
Test oil : ISO 4113

Combination No. : 9 400 030 737

Injection pump
Pump designation : PES6A95D320/3RS2881
EP type number : 9 410 037 215

Governor
Governor design. : RSV475...1100A0C850R
Governor no. : 9 420 034 716

Cust. part No. : 3929409

Customer-spec. information
Customer : CDC
Motor : 6BT
Power KW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.95
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm3/1000 strokes :	87.5
<hr/>	
cm3/1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm3/1000S. :	+ 3.0
<hr/>	
Spreed	
cm3/1000 strokes :	3.5
<hr/>	
Check tolerance	
cm3/1000S. :	6.0
<hr/>	
Rated speed rpm :	500
<hr/>	
Rack travel in mm :	5.40
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	13.5
cm3/1000 strokes :	+ 2.0
Check tolerance	
cm3/1000S. :	+ 4.5
Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.50
Tolerance mm :	+ 0.20
<hr/>	
governor spring	
pre-tension	
click setting x :	5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1100
Aneroid pressure	
hPa :	900
Del. quantity	
cm3/1000 strokes :	87.5
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S. :	+ 3.0
Spreed	
cm3/1000 strokes :	3.5

Check tolerance	
cm3/1000S. :	6.0

CONTROL LEVER

control lever	
position degree :	111.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	9.90
Rated speed rpm :	1155
Tolerance 1/min :	+ 5

rack travel mm :	5.50
Rated speed rpm :	1220
Tolerance 1/min :	+ 5

rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1300

rack travel mm :	5.50
Rated speed rpm :	1230

LOW IDLE

control lever	
position degree :	92.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	500
rack travel mm :	4.90

Testing:

Rated speed rpm :	500
rack travel mm :	5.40
Tolerance mm :	+ 0.10

Rated speed rpm :	100
-------------------	-----

CRT mm min. :	> 19.00
---------------	---------

TORQUE CONTROL

Rated speed rpm :	1100
rack travel mm :	10.95
Tolerance mm :	+ 0.05

Rated speed rpm :	800
-------------------	-----

rack travel mm : 11.50
Tolerance mm : \pm 0.10

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 98.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.90
Rated speed rpm : 1155
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.5
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000s. : \pm 15.0

LOW IDLE

Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 18.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.5
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.10.96
Test oil : ISO 4113

Combination No. : 0 402 036 066

Injection pump
Pump designation : PES6P110A720/3LS477
: -2
EP type number : 0 412 016 071

Governor
Governor design. : RQ250/1100PA845
Governor no. : 0 421 801 380

Cust. part No. : 51.11102-7821

Customer-spec. information

Customer : MAN
Motor : D2866 F/UH
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance L/h : ± 10.0

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089

B07

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 11.95
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 127.5

cm3/1000 strokes : \pm 1.5

Check tolerance
cm3/1000S. : \pm 4.0

Spreed
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

Rated speed rpm : 250

Rack travel in mm : 6.10
Tolerance mm : \pm 0.10

Del. quantity
cm3/1000 strokes : 17.5
cm3/1000 strokes : \pm 2.5

Check tolerance
cm3/1000S. : \pm 5.0

Spreed
cm3/1000 strokes : 4.5

Check tolerance
cm3/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800

Aneroid pressure
hPa : -

Del. quantity
cm3/1000 strokes : 127.5
cm3/1000 strokes : \pm 1.5

Check tolerance
cm3/1000S. : \pm 4.0

Spreed
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1153
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1245
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.10
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : \pm 20

Rated speed rpm : 100

CRT mm min. : $>$ 7.60

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 11.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1100
rack travel mm : 11.90
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 11.90
Tolerance mm : \pm 0.10

Rated speed rpm : 1100
rack travel mm : 12.45
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100

Rated speed rpm : < 170
Check
speed 1/min : > 80
Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 138.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 123.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1153
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 120.0
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 17.5
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.10.96
Test oil : ISO 4113

Combination No. : 0 402 046 876

Injection pump
Pump designation : PES6P110A320RS3329Y
EP type number : 0 412 016 756

Governor
Governor design. : RQV325...1250PA1251
Governor no. : 0 421 814 164

Cust. part No. : 1309375/0

Customer-spec. information
Customer : DAF
Motor : NS133M
Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 146.0
<hr/>	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 7.5
<hr/>	
Rated speed rpm	: 325
<hr/>	
Rack travel in mm	: 4.50
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 26.0
cm ³ /1000 strokes	: ± 2.5
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
cm ³ /1000 strokes	: 12.0
Check tolerance	
cm ³ /1000S.	: 15.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 325
guide sleeve	
travel mm	: 1.25
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1298
guide sleeve	
travel mm	: 10.25
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 863
guide sleeve	
travel mm	: 5.41
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 520
guide sleeve	
travel mm	: 3.02
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1510
guide sleeve	
travel mm	: 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1370
<hr/>	
Rack travel in mm	: 10.85
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 146.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5

CONTROL LEVER

control lever	
position degree	: 123.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 10.85
Rated speed rpm	: 1285
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1360
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever	
position degree	: 76.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 325
-----------------	-------

rack travel mm : 4.50
Tolerance mm : + 0.10
Rated speed rpm : 225
CRT mm min. : > 6.00
Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : + 0.05
Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : + 0.10
Rated speed rpm : 1250
rack travel mm : 11.85
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 6.50
Tolerance mm : + 0.20

Rated speed rpm : 600

Pressure hPa : 310
rack travel mm : 10.55
Tolerance mm : + 0.05

Pressure hPa : 130
rack travel mm : 7.85
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 147.5
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 83.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.5

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1285
Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 26.0
cm³/1000 strokes : + 2.5
Check tolerance
cm³/1000S. : + 5.0
Spreed
cm³/1000 strokes : 12.0
Check tolerance
cm³/1000S. : 15.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113

Combination No. : 0 402 076 811

Injection pump
Pump designation : PES6P120A1320/5RS338
: 0
EP type number : 0 412 026 800

Governor
Governor design. : RSV350...1100P8A664
Governor no. : 0 421 833 584

Cust. part No. : 1385930

Customer-spec. information
Customer : SCANIA
Motor : DS9 93M,DSC9 47M

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.95
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 146.0

cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 350

Rack travel in mm : 5.20
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 146.0
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 59.0
tolerance degree : + 4.0

control lever
position degree : 109.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1240
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1390

LOW IDLE

control lever
position degree : 77.0
tolerance degree : + 4.0

control lever
position degree : 27.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.70

Testing:

Rated speed rpm : 350
rack travel mm : 5.20
Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 11.95
Tolerance mm : \pm 0.05

Rated speed rpm : 1100
rack travel mm : 11.95
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 150
rack travel mm : 11.05
Tolerance mm : \pm 0.15

Pressure hPa : 310
rack travel mm : 11.65
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 150.0
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96

Test oil : ISO 4113

Combination No. : 0 402 076 812

Injection pump

Pump designation : PES6P120A1320/5RS338
: 1

EP type number : 0 412 026 801

Governor

Governer design. : RSV350...1100P1A666

Governer no. : 0 421 833 585

Cust. part No. : 1385930

Customer-spec. information

Customer : SCANIA

Motor : DS9192A/95M

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Tolerance bar : ± 0.1

Test nozzle holde assembly

: 1 688 901 104

Opening pressure

bar : 251.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.45

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10

Check

tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.65
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 217.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rack travel in mm : 6.00
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 20.0

cm³/1000 strokes : \pm 4.0

Check tolerance
cm³/1000S. : \pm 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 217.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 33.0
tolerance degree : \pm 4.0

control lever
position degree : 83.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.60
Rated speed rpm : 750

rack travel mm : 4.00
Rated speed rpm : 788
Tolerance 1/min : \pm 4

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 14.65
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.65
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : -
rack travel mm : 12.60
Tolerance mm : \pm 0.20

Pressure hPa : 480

rack travel mm : 13.95
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 750

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96

Test oil : ISO 4113

Combination No. : 0 402 640 828

Injection pump

Pump designation : PE12P120A520LS7826

EP type number : 0 412 620 817

Governor

Governer design. : RQV350...1050PA870

: -13

Governer no. : 0 421 813 934

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ

Motor : OM 444 LA

Power KW : 620.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Overflow quantity

min. l/h : 160

Tolerance l/h : ± 10.0

Test nozzle holde assembly

: 1 688 901 019

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.45

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 20.00

Tolerance mm : ± 1.00

Firing order : 12- 1- 5- 9- 8

: - 3- 4- 11- 10

: - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10

Check

tolerance °NW : ± 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.05
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 275.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 350

Rack travel in mm : 5.60
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 19.0
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 1800

Del. quantity
cm³/1000 strokes : 275.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1185
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 63.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.60
Tolerance mm : \pm 0.10

Rated speed rpm : 250

CRT mm min. : $>$ 7.30

Rated speed rpm : 475

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 14.05
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 14.05
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 1.45
Tolerance mm : \pm 0.05

Pressure hPa : 900
rack travel mm : 4.85
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : > 200
Rated speed rpm : < 310

Check
speed 1/min : > 180
Check
speed 1/min : < 330

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1800
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 266.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 15.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 125.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 15.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 340.0
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 19.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113
Combination No. : 0 402 696 033
Injection pump
Pump designation : PE6H120/320LS4-2
EP type number : 0 412 626 003
Governor
Governor design. : RE36
Governor no. : 0 421 890 359

Cust. part No. : 0250745502

Customer-spec. information
Customer : MB-NFZ
Motor : OM 441 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 7.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 6

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 750
Uact V : 3.000
Prestroke solenoid
Stroke mm : 7.00
Del. quantity
cm3/1000 strokes : 375.0
cm3/1000 strokes : +/- 1.0
Check tolerance
cm3/1000S. : +/- 4.0
Spreed
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1050
Uact V : 3.000
Prestroke solenoid
Stroke mm : 7.00
Del. quantity
cm3/1000 strokes : 339.0
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

Rated speed rpm : 550
Uact V : 2.800
Prestroke solenoid
Stroke mm : 8.70
Del. quantity
cm3/1000 strokes : 367.0
cm3/1000 strokes : +/- 3.0
Check tolerance
cm3/1000S. : +/- 6.0

TEST POINT L1

Rated speed rpm : 300
Uact V : 1.500

Tolerance Volt : \pm 0.060
Check tolerance
Volt : \pm 0.060
Prestroke solenoid
Stroke mm : 8.00
Del. quantity
cm³/1000 strokes : 25.0
cm³/1000 strokes : \pm 3.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 1.900
Prestroke solenoid
Stroke mm : 10.00
Del. quantity
cm³/1000 strokes : 106.0
cm³/1000 strokes : \pm 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.08.96
Test oil : ISO 4113
Combination No. : 0 402 744 805
Injection pump
Pump designation : PES4P120A320RS7312
: -1
EP type number : 0 412 724 803
Governor
Governor design. : RQ400/1200PA1319
Governor no. : 0 421 801 813

Cust. part No. : 51.11103-7553

Customer-spec. information

Customer : MAN
Motor : D 0824 LOH 05
Power KW : 114.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Overflow quantity
min. l/h : 120
Tolerance l/h : ± 10.0
Test nozzle holder
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

Check
tolerance mm : ± 0.10

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.20
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 72.0

cm³/1000 strokes : +- 5.0

Check tolerance
cm³/1000S. : +- 8.0

Speed

cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 6.0

Rated speed rpm : 1000

Rack travel in mm : 13.05
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 206.0

cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 400

Rack travel in mm : 4.80
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 40.0

cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 2.94
Tolerance mm : +- 0.20

Rated speed rpm : 1256

guide sleeve
travel mm : 7.33
Tolerance mm : +- 0.15

Rated speed rpm : 1200
guide sleeve
travel mm : 7.00
Tolerance mm : +- 0.10

Rated speed rpm : 443
guide sleeve
travel mm : 4.95
Tolerance mm : +- 0.10

Rated speed rpm : 530
guide sleeve
travel mm : 7.00
Tolerance mm : +- 0.10

Rated speed rpm : 1390
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 700

Rack travel in mm : 20.00
Tolerance mm : +- 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 206.0
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 99.0
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 12.05
Rated speed rpm : 1250

Tolerance 1/min : + 8

rack travel mm : 4.00

Rated speed rpm : 1335

Tolerance 1/min : + 15

rack travel mm : 0.50

Tolerance mm : + 0.50

Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 74.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 400

rack travel mm : 4.80

Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 433

Tolerance 1/min : + 20

Rated speed rpm : 300

CRT mm min. : > -1.00

TORQUE CONTROL

Rated speed rpm : 1000

rack travel mm : 13.05

Tolerance mm : + 0.05

Rated speed rpm : 1200

rack travel mm : 13.05

Tolerance mm : + 0.10

Rated speed rpm : 700

rack travel mm : 13.05

Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1200

rack travel mm : 13.05

Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500

rack travel mm : 8.90

Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : 200

rack travel mm : 9.20

Tolerance mm : + 0.15

Pressure hPa : 500

rack travel mm : 11.85

Tolerance mm : + 0.25

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200

Rated speed rpm : 1200

Del. quantity
cm³/1000 strokes : 208.0

cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200

Rated speed rpm : 700

Del. quantity
cm³/1000 strokes : 218.0

cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -

Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 137.0

cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 12.05

Rated speed rpm : 1250

Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.90
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 50.0
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 12.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 40.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.96
Test oil : ISO 4113

Combination No. : 0 402 796 033

Injection pump
Pump designation : PES6H120/72QLS7
EP type number : 0 412 726 004

Governor
Governor design. : RE36
Governor no. : 0 421 890 360

Cust. part No. : 0250745702

Customer-spec. information
Customer : MB-NFZ
Motor : OM 447 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 7.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery mark

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 6

(B) POSITIONER TESTING

Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 800
Uact V : 2.650
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm3/1000 strokes : 302.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0
Speed
cm3/1000 strokes : 5.0
Check tolerance
cm3/1000S. : 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1100
Uact V : 2.750
Prestroke solenoid
Stroke mm : 6.00
Del. quantity
cm3/1000 strokes : 302.0
cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000S. : + 8.0

Rated speed rpm : 550
Uact V : 2.350
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm3/1000 strokes : 272.0
cm3/1000 strokes : + 8.0
Check tolerance
cm3/1000S. : + 11.0

TEST POINT L1

Rated speed rpm : 300
Uact V : 1.440

Tolerance Volt : \pm 0.060
Check tolerance
Volt : \pm 0.060
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm³/1000 strokes : 25.0
cm³/1000 strokes : \pm 3.0
Speed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 1.900
Prestroke solenoid
Stroke mm : 9.00
Del. quantity
cm³/1000 strokes : 104.0
cm³/1000 strokes : \pm 10.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.96
Test oil : ISO 4113

Combination No. : 0 402 946 027

Injection pump
Pump designation : PES6P120A320RS8047
EP type number : 0 412 926 029

Governor
Governor design. : RQV275...1250PA1312K
Governor no. : 0 421 815 966

Cust. part No. : CCEP 5160 66-244

Customer-spec. information
Customer : RENAULT V.I.
Motor : MIDR 06.02.26L71
Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Overflow quantity
min. l/h : 145
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

°NW after s.o.d. : -0.60
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery difference

betw. rack trav.
mm : 21.00
and maximum rack
travel : 19.50
Difference ° CS : 3.00

CRT ZERO POSITION

Rack travel in mm : 12.10
Tolerance mm : \pm 0.05

BASIC SETTING

Rated speed rpm : 1250

Del. quantity
cm³/1000 strokes : 185.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : -7.50
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 33.0
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 6.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.52
Tolerance mm : \pm 0.20

Rated speed rpm : 1340
guide sleeve
travel mm : 9.96
Tolerance mm : \pm 0.15

Rated speed rpm : 923
guide sleeve
travel mm : 6.76
Tolerance mm : \pm 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 3.92
Tolerance mm : \pm 0.25

Rated speed rpm : 1650
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1430

Rack travel in mm : 11.10
Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1600
Del. quantity
cm³/1000 strokes : 185.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 296.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : -1.00
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

rack travel mm : -8.10
Rated speed rpm : 1465
Tolerance 1/min : \pm 5

rack travel mm : -11.60
Tolerance mm : \pm 0.55
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 241.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : -7.50
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $<$ -6.10

Rated speed rpm : 325
rack travel mm : $>$ 6.10

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650
rack travel mm : -2.10
Tolerance mm : \pm 0.10

Rated speed rpm : 350
rack travel mm : -3.25
Tolerance mm : \pm 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1600
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.60
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 250
rack travel mm : -3.70
Tolerance mm : \pm 0.20

Pressure hPa : 700
rack travel mm : -0.60
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 175
Rated speed rpm : $<$ 240

Check
speed 1/min : $>$ 155
Check
speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 174.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 124.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 113.0
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 33.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.06.96
Test oil : ISO 4113
Combination No. : 0 403 476 132
Injection pump
Pump designation : PES6MW100/320RS1132
: -1
EP type number : 0 413 406 230
Governor
Governor design. : RSV325...1200MWOA359
: -1
Governor no. : 0 420 085 241
Cust. part No. : 866708/P04/960802

Customer-spec. information
Customer : PENTA
Motor : TD 630ME
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet Line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 457 413 010
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test Lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 2.95
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 12.65
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 116.0
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : + 3.0

Spreed
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 6.00
Tolerance mm : + 0.10

Del. quantity
cm3/1000 strokes : 14.0
cm3/1000 strokes : + 2.0

Check tolerance
cm3/1000S. : + 4.5

Spreed
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 3.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000

Del. quantity
cm3/1000 strokes : 116.0
cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 3.0

Spreed
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 6.0

CONTROL LEVER

control lever
position degree : 96.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.60
Rated speed rpm : 1230
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1285
Tolerance 1/min : + 10

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1350

rack travel mm : 4.00
Rated speed rpm : 1295

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 5.50

Testing:

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 490
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.65
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 700
rack travel mm : 10.55
Tolerance mm : \pm 0.05

Rated speed rpm : 700

Pressure hPa : 610
rack travel mm : 12.45
Tolerance mm : \pm 0.15

Pressure hPa : 270
rack travel mm : 10.75
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 77.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1230
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

Del. quantity
cm³/1000 strokes : 135.0
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 14.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.09.96
Test oil : ISO 4113

Combination No. : 9 400 083 423

Injection pump
Pump designation : PES3A80D320/3RS1264
EP type number : 9 400 083 053

Governor
Governor design. : RSV350...900A7C627R
Governor no. : 9 420 083 264

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D225-3

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 52.0
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000s. : ± 2.0

Speed
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 3.5

Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 52.0
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Spreed
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 111.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 940
rack travel mm : 9.20

Rated speed rpm : 969
Tolerance 1/min : ± 4
rack travel mm : 4.00

Rated speed rpm : 941
rack travel mm : 9.20

Rated speed rpm : 970
Tolerance 1/min : ± 4
rack travel mm : 4.00

Rated speed rpm : 942
rack travel mm : 9.20

Rated speed rpm : 971
Tolerance 1/min : ± 4
rack travel mm : 4.00

Rated speed rpm : 943
rack travel mm : 9.20

Rated speed rpm : 972
Tolerance 1/min : ± 4
rack travel mm : 4.00

Rated speed rpm : 944
rack travel mm : 9.20

Rated speed rpm : 973
Tolerance 1/min : ± 4
rack travel mm : 4.00

Rated speed rpm : 945
rack travel mm : 9.20

Rated speed rpm : 974
Tolerance 1/min : ± 4
rack travel mm : 4.00

LOW IDLE

control lever
position degree : 79.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 5.50

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 10.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 10.30
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.20
Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.09.96
Test oil : ISO 4113

Combination No. : 9 400 083 427

Injection pump
Pump designation : PES4A80D320/3RS1265
EP type number : 9 400 083 055

Governor
Governor design. : RSV350...900A7C627R
Governor no. : 9 420 083 264

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D225-4

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 52.0
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 9.5

cm³/1000 strokes : \pm 1.5

Check tolerance

cm³/1000S. : \pm 3.5

Spreed

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : \pm 0.35

governor spring

pre-tension

click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 52.0

cm³/1000 strokes : \pm 0.5

Check tolerance

cm³/1000S. : \pm 2.0

Spreed

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 4.0

CONTROL LEVER

control lever

position degree : 111.0

tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 940
rack travel mm : 9.20

Rated speed rpm : 969
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 941
rack travel mm : 9.20

Rated speed rpm : 970
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 942
rack travel mm : 9.20

Rated speed rpm : 971
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 943
rack travel mm : 9.20

Rated speed rpm : 972
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 944
rack travel mm : 9.20

Rated speed rpm : 973
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 945
rack travel mm : 9.20

Rated speed rpm : 974
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 5.50

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 10.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 10.30
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.20
Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.09.96
Test oil : ISO 4113

Combination No. : 9 400 083 429

Injection pump
Pump designation : PES6A80D320/3RS1261
EP type number : 9 400 083 057

Governor
Governor design. : RSV350...900A7C627R
Governor no. : 9 420 083 264

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D225-6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 52.0

cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000s. : ± 2.0

Speed

cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 52.0
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Spreed
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 111.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 940
rack travel mm : 9.20

Rated speed rpm : 969
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

Rated speed rpm : 941
rack travel mm : 9.20

Rated speed rpm : 970
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

Rated speed rpm : 942
rack travel mm : 9.20

Rated speed rpm : 971
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55

Rated speed rpm : 943
rack travel mm : 9.20

Rated speed rpm : 972
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55

Rated speed rpm : 944
rack travel mm : 9.20

Rated speed rpm : 973
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55

Rated speed rpm : 945
rack travel mm : 9.20

Rated speed rpm : 974
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 5.50

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 10.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 10.30
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.20
Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 3.5
Speed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.09.96
Test oil : ISO 4113
Combination No. : 9 400 083 450AJ
Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025
Governor
Governor design. : RSV375...1150A2C2210
: R
Governor no. : 9 420 083 202
Cust. part No. : 3353250-VERSA009

Customer-spec. information
Customer : CUMMINS
Motor : 6 C 8.3 L
Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : + 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 10.75
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 93.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0
Rated speed rpm :	375
Rack travel in mm :	5.20
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	11.0
cm3/1000 strokes :	+ 2.0
Check tolerance	
cm3/1000S. :	+ 4.5
Spreed	
cm3/1000 strokes :	5.5
Check tolerance	
cm3/1000S. :	9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
governor spring	
pre-tension	
click setting x :	3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1250
Aneroid pressure	
hPa :	-
Del. quantity	
cm3/1000 strokes :	93.0
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S. :	+ 3.0
Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0

CONTROL LEVER

control lever	
position degree :	98.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	9.70
Rated speed rpm :	1295
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	1350
Tolerance 1/min :	+ 15
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1500

LOW IDLE

control lever	
position degree :	69.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	375
rack travel mm :	4.70

Testing:

Rated speed rpm :	375
rack travel mm :	5.20
Tolerance mm :	+ 0.10
rack travel mm :	2.00
Rated speed rpm :	565
Tolerance 1/min :	+ 30
Rated speed rpm :	100
CRT mm min. :	> 19.00

TORQUE CONTROL

Rated speed rpm :	1250
rack travel mm :	10.75
Tolerance mm :	+ 0.05
Rated speed rpm :	500
rack travel mm :	11.90
Tolerance mm :	+ 0.10
Rated speed rpm :	600
rack travel mm :	11.90

Tolerance mm : \pm 0.10
Rated speed rpm : 900
rack travel mm : 11.40
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 102.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 101.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 142.0
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 11.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.09.96
Test oil : ISO 4113
Combination No. : 9 400 083 451
Injection pump
Pump designation : PES6A100D320/3RS2691
: -2
EP type number : 9 410 230 028
Governor
Governor design. : RQV350...1100AB1218R
Governor no. : 9 420 080 214

Cust. part No. :

Customer-spec. information
Customer : CUMMINS
Motor : 6 CT/8.3 1
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 118.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 8.0
Rated speed rpm	: 350
Rack travel in mm	: 5.90
Tolerance mm	: +- 0.10
Del. quantity	
cm ³ /1000 strokes	: 15.0
cm ³ /1000 strokes	: +- 2.0
Check tolerance	
cm ³ /1000S.	: +- 4.5
Speed	
cm ³ /1000 strokes	: 5.5
Check tolerance	
cm ³ /1000S.	: 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 1100
guide sleeve	
travel mm	: 8.45
Tolerance mm	: +- 0.05
Rated speed rpm	: 800
guide sleeve	
travel mm	: 5.75
Tolerance mm	: +- 0.15
Rated speed rpm	: 350
guide sleeve	
travel mm	: 2.40
Tolerance mm	: +- 0.20
Rated speed rpm	: 500
guide sleeve	
travel mm	: 4.05
Tolerance mm	: +- 0.15

GUIDE SLEEVE POSITION

Rated speed rpm	: 1090
Rack travel in mm	: 16.50
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 800
Del. quantity	
cm ³ /1000 strokes	: 118.0
cm ³ /1000 strokes	: +- 1.0
Check tolerance	
cm ³ /1000S.	: +- 3.0
Speed	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 8.0

CONTROL LEVER

control lever	
position degree	: 63.0
tolerance degree	: +- 4.0
control lever	
position degree	: 118.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 11.60
Rated speed rpm	: 1145
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1255
Tolerance 1/min	: +- 15
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1370

LOW IDLE

control lever	
position degree	: 71.0
tolerance degree	: +- 4.0
control lever	
position degree	: 15.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm	: 350
rack travel mm	: 5.90
Tolerance mm	: +- 0.10
Rated speed rpm	: 100

CRT mm min. : > 9.00

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.65
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 13.65
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 13.40
Tolerance mm : \pm 0.10

Rated speed rpm : 950
rack travel mm : 12.95
Tolerance mm : \pm 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 13.65
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 500
rack travel mm : 0.40
Tolerance mm : \pm 0.10

Pressure hPa : 600
rack travel mm : 1.35
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 270

Check
speed 1/min : > 80

Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 133.0
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : 800
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 129.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 94.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

Del. quantity
cm³/1000 strokes : 171.0
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000S. : ± 11.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.04.96
Test oil : ISO 4113
Combination No. : 9 400 083 454
Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number : 9 410 230 025

Governor
Governor design. : RSV400...900A7C2209
: -1R
Governor no. : 9 420 083 232

Cust. part No. :

Customer-spec. information
Customer : CUMMINS
Motor : 6 CT 8.3

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Start of delivery blocking

*NW after s.o.d. : 10.00
Tolerance : ± 0.10
Check
tolerance °NW : ± 0.23

Barrel no. : 1

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.75
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 129.5

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 400

Rack travel in mm : 5.70
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 18.5
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spreed
cm³/1000 strokes : 5.5

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

governor spring
pre-tension
click setting x : 5.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 129.5
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 108.0
tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 943
rack travel mm : 11.70

Rated speed rpm : 979
Tolerance 1/min : \pm 2
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 944
rack travel mm : 11.70

Rated speed rpm : 980
Tolerance 1/min : \pm 2
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 945
rack travel mm : 11.70

Rated speed rpm : 981
Tolerance 1/min : \pm 2
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

Rated speed rpm : 946
rack travel mm : 11.70

Rated speed rpm : 982
Tolerance 1/min : \pm 2
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55

Rated speed rpm : 1100

Rated speed rpm : 947
rack travel mm : 11.70

Rated speed rpm : 983
Tolerance 1/min : ± 2
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

Rated speed rpm : 948
rack travel mm : 11.70

Rated speed rpm : 984
Tolerance 1/min : ± 2
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.20

Testing:

Rated speed rpm : 400
rack travel mm : 5.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 440
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 12.75
Tolerance mm : ± 0.05

Rated speed rpm : 550
rack travel mm : 12.80

D01

Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 14.30
Tolerance mm : ± 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 142.0
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000s. : ± 11.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 18.5
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.5
Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.09.96
Test oil : ISO 4113
Combination No. : 9 400 083 462
Injection pump
Pump designation : PES6A100D320/3RS2691
: -5
EP type number : 9 400 084 031
Governor
Governor design. : RSV400...900A7C2209
: -3R
Governor no. : 9 420 083 262
Cust. part No. : 3354950

Customer-spec. information
Customer : CUMMINS
Motor : 6 CT 8.3 L
Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : + 1.5
Test lines : 1 680 750 014

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 2.85
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 860
Rack travel in mm : 13.35
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 142.5
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Speed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 400

Rack travel in mm : 5.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5

Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 860
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 142.5
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 111.0
tolerance degree : + 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 928
rack travel mm : 12.30

Rated speed rpm : 977
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1100

Rated speed rpm : 929
rack travel mm : 12.30

Rated speed rpm : 978
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1100

Rated speed rpm : 930
rack travel mm : 12.30

Rated speed rpm : 979
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1100

Rated speed rpm : 931
rack travel mm : 12.30

Rated speed rpm : 980
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1100

Rated speed rpm : 932
rack travel mm : 12.30

Rated speed rpm : 981
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55
Rated speed rpm : 1100
rack travel mm : 12.30
rack travel mm : 4.00
rack travel mm : 0.85
Tolerance mm : \pm 0.55

LOW IDLE

control lever
position degree : 80.0
tolerance degree : \pm 4.0
Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.30

Testing:

Rated speed rpm : 400
rack travel mm : 5.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 445
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 860
rack travel mm : 13.35
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 13.40
Tolerance mm : \pm 0.10

Rated speed rpm : 450
rack travel mm : 14.00
Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

D04

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 145.0
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 11.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.09.96
Test oil : ISO 4113
Combination No. : 9 400 085 257
Injection pump
Pump designation : PES4A80D320RS1282
EP type number : 9 400 083 056
Governor
Governor design. : RSV350...1100A2C2129
: -6R
Governor no. : 9 420 083 270
Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D 229-4

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 003
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Beginning of delivery difference
and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 8.75
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 49.0
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.0
Speed

cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 350

Rack travel in mm : 6.50

Tolerance mm : ± 0.10

Del. quantity

cm³/1000 strokes : 11.5

cm³/1000 strokes : ± 1.5

Check tolerance

cm³/1000S. : ± 3.5

Speed

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : ± 0.35

governor spring

pre-tension

click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 49.0

cm³/1000 strokes : ± 0.5

Check tolerance

cm³/1000S. : ± 2.0

Speed

cm³/1000 strokes : 2.5

Check tolerance

cm³/1000S. : 4.0

CONTROL LEVER

control lever

position degree : 98.0

tolerance degree : ± 4.0

D06

RATED SPEED

rack travel mm : 7.70

Rated speed rpm : 1145

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1195

Tolerance 1/min : ± 15

rack travel mm : 0.85

Tolerance mm : ± 0.55

Rated speed rpm : 1300

LOW IDLE

control lever

position degree : 76.0

tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 6.00

Testing:

Rated speed rpm : 350

rack travel mm : 6.50

Tolerance mm : ± 0.10

rack travel mm : 2.00

Rated speed rpm : 635

Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100

rack travel mm : 8.75

Tolerance mm : ± 0.05

Rated speed rpm : 500

rack travel mm : 10.05

Tolerance mm : ± 0.05

Rated speed rpm : 900

rack travel mm : 9.25

Tolerance mm : ± 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 51.0
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 50.0
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 7.0

BREAKAWAY

Rack travel in mm : 7.70
Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 11.5
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 3.5
Spreed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.09.96
Test oil :
Combination No. : 9 400 085 266
Injection pump
Pump designation : PES6A95D410RS2751
EP type number : 9 400 084 013
Governor
Governor design. : RSV650...1250A8C2231
: L
Governor no. : 9 420 083 229
Cust. part No. :

Customer-spec. information
Customer : FORD
Motor : 6,6 L NA
Power KW : 101.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 017

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

D08

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 6.50

BASIC SETTING

Rated speed rpm : 1220

Rack travel in mm : 11.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 82.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Spreed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 650

Rack travel in mm : 6.80
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1220
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 82.0
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 101.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.00
Rated speed rpm : 1268
Tolerance 1/min : ± 3

rack travel mm : 4.00
Rated speed rpm : 1298
Tolerance 1/min : ± 3

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1420

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 6.30

Testing:

Rated speed rpm : 650
rack travel mm : 6.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 760
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1220
rack travel mm : 11.05
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 11.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 71.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1268
Tolerance 1/min : ± 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 160.0
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000S. : ± 11.0

LOW IDLE

Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.09.96
Test oil : ISO 4113
Combination No. : 9 400 085 270
Injection pump
Pump designation : PES6A90D320RS2718
EP type number : 9 400 084 003
Governor
Governor design. : RSV350...1400A2B2215
: -1R
Governor no. : 9 420 083 231

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D229/6

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.75
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery difference
and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 8.55
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 62.0
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000s. : ± 2.5

Speed	
cm ³ /1000 strokes :	3.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	7.0
<hr/>	
Rated speed rpm :	350
<hr/>	
Rack travel in mm :	5.50
Tolerance mm :	+ 0.10
Del. quantity	
cm ³ /1000 strokes :	13.0
cm ³ /1000 strokes :	+ 2.0
Check tolerance	
cm ³ /1000S. :	+ 4.0
Speed	
cm ³ /1000 strokes :	4.5
Check tolerance	
cm ³ /1000S. :	7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
<hr/>	
governor spring	
pre-tension	
click setting x :	5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1400
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	62.0
cm ³ /1000 strokes :	+ 0.5
Check tolerance	
cm ³ /1000S. :	+ 2.5
Speed	
cm ³ /1000 strokes :	3.0
Check tolerance	
cm ³ /1000S. :	7.0

CONTROL LEVER

control lever	
position degree :	59.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	7.50
Rated speed rpm :	1445
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1490
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1650

LOW IDLE

control lever	
position degree :	25.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	350
rack travel mm :	5.00

Testing:

Rated speed rpm :	350
rack travel mm :	5.50
Tolerance mm :	+ 0.10

rack travel mm :	2.00
Rated speed rpm :	590
Tolerance 1/min :	+ 30

Rated speed rpm :	100
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CRT mm min. :	> 19.00
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TORQUE CONTROL

Rated speed rpm :	1400
rack travel mm :	8.55
Tolerance mm :	+ 0.05

Rated speed rpm :	500
rack travel mm :	9.15
Tolerance mm :	+ 0.05

Rated speed rpm :	900
rack travel mm :	8.95

Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 57.0
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 65.0
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 7.50
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 13.0
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.09.96
Test oil : ISO 4113
Combination No. : 9 400 085 283
Injection pump
Pump designation : PES6A90D410RS2293
EP type number : 0 410 896 031
Governor
Governor design. : RSV350...1250A0C1150
: -3L
Governor no. : 9 420 083 255

Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 352-A

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 62.0

cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000s. : ± 2.5

Spread
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000s. : 7.0

Rated speed rpm : 350

Rack travel in mm : 7.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : + 0.35
governor spring
pre-tension
click setting x : 3.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 62.0
cm³/1000 strokes : + 0.5
Check tolerance
cm³/1000S. : + 2.5
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 104.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.00
Rated speed rpm : 1295

Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1350
Tolerance 1/min : + 15
rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 76.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.70

Testing:

Rated speed rpm : 350
rack travel mm : 7.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 460
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 10.05
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 10.10
Tolerance mm : + 0.10

Rated speed rpm : 400
rack travel mm : 11.50
Tolerance mm : + 0.30

BREAKAWAY

Rack travel in mm : 9.00
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 200
rack travel mm : 14.50
Tolerance mm : \pm 0.30

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.09.96
Test oil : ISO 4113
Combination No. : 9 400 085 286
Injection pump
Pump designation : PES6A90D32ORS2701
EP type number : 9 400 083 094
Governor
Governor design. : RSV350...1150A2B2097
: -2R
Governor no. : 9 420 083 224
Cust. part No. :

Customer-spec. information

Customer : MWM
Motor : D 229-6
Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 003
Outside diameter : 6.0

D17

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.70
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 9.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 62.5
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 2.5

Speed
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 6.00

Tolerance mm : ± 0.10

Del. quantity

cm³/1000 strokes : 12.5

cm³/1000 strokes : ± 2.0

Check tolerance

cm³/1000S. : ± 4.0

Speed

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65

Tolerance mm : ± 0.35

governor spring

pre-tension

click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 62.5

cm³/1000 strokes : ± 0.5

Check tolerance

cm³/1000S. : ± 2.5

Speed

cm³/1000 strokes : 3.0

Check tolerance

cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 46.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.20

Rated speed rpm : 1195

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1245

Tolerance 1/min : ± 15

rack travel mm : 0.85

Tolerance mm : ± 0.55

Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 20.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 5.50

Testing:

Rated speed rpm : 350

rack travel mm : 6.00

Tolerance mm : ± 0.10

rack travel mm : 2.00

Rated speed rpm : 600

Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 9.25

Tolerance mm : ± 0.05

Rated speed rpm : 500

rack travel mm : 9.85

Tolerance mm : ± 0.05

Rated speed rpm : 800

rack travel mm : 9.55

Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 54.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 60.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 8.20
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 12.5
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.09.96

Test oil : ISO 4113

Combination No. : 9 400 085 297

Injection pump

Pump designation : PES6A95D410RS2758-1

EP type number : 9 400 084 015

Governor

Governer design. : RQV350...1200AB1220

: -2L

Governer no. : 9 420 080 252

Cust. part No. :

Customer-spec. information

Customer : FORD

Motor : 6,6 L TC

Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde assembly

: 1 688 901 017

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 3.00

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.05

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 109.0

cm³/1000 strokes : ± 1.0

Check tolerance

cm³/1000S. : ± 3.0

Speed

cm³/1000 strokes : 3.5

Check tolerance

cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1200
guide sleeve
travel mm : 7.80
Tolerance mm : \pm 0.10

Rated speed rpm : 350
guide sleeve
travel mm : 1.90
Tolerance mm : \pm 0.20

Rated speed rpm : 700
guide sleeve
travel mm : 4.30
Tolerance mm : \pm 0.20

Rated speed rpm : 500
guide sleeve
travel mm : 3.30
Tolerance mm : \pm 0.20

Rated speed rpm : 270
guide sleeve
travel mm : 1.00
Tolerance mm : \pm 0.20

GUIDE SLEEVE POSITION

Rated speed rpm : 1400

Rack travel in mm : 7.90
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 109.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 61.0
tolerance degree : \pm 4.0

control lever
position degree : 117.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.00
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1395
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

control lever
position degree : 16.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.80
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 10.00

Rated speed rpm : 395
rack travel mm : > 10.00

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 14.05
Tolerance mm : \pm 0.05

Rated speed rpm : 850
rack travel mm : 14.05
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 14.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 490
rack travel mm : 3.40
Tolerance mm : \pm 0.20

Pressure hPa : 355
rack travel mm : 1.55
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 270

Check
speed 1/min : > 80
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 850

Del. quantity
cm³/1000 strokes : 105.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 54.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 1250
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 160.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.09.96
Test oil :
Combination No. : 9 400 085 299
Injection pump
Pump designation : PES6A95D410RS2751
EP type number : 9 400 084 013
Governor
Governor design. : RSV650...1250A8C2231
: -2L
Governor no. : 9 420 083 236
Cust. part No. :

Customer-spec. information
Customer : FORD
Motor : 6,6 L TC
Power KW : 123.8

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 017
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.20
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende
and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 6.50

BASIC SETTING

Rated speed rpm : 1220
Rack travel in mm : 12.55
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 99.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Speed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 650

Rack travel in mm : 6.80
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1220
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 99.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 101.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.50
Rated speed rpm : 1268
Tolerance 1/min : \pm 3

rack travel mm : 4.00
Rated speed rpm : 1303
Tolerance 1/min : \pm 3

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1420

LOW IDLE

control lever
position degree : 76.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 6.30

Testing:

Rated speed rpm : 650
rack travel mm : 6.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 760
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1220
rack travel mm : 12.55
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.55
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 85.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1268
Tolerance 1/min : ± 3

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 160.0
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000S. : ± 11.0

LOW IDLE

Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.04.96
Test oil : ISO 4113

Combination No. : 9 400 085 306

Injection pump
Pump designation : PES6A90D410RS2596
EP type number : 0 410 896 073

Governor
Governor design. : RQV300...1400AB1066
: -7L
Governor no. : 9 420 080 267

Cust. part No. : 0180742402

Customer-spec. information
Customer : MBB
Motor : OM352A
Power KW : 121.4

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.45
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 78.0
cm3/1000 strokes : ± 0.5

Check tolerance
cm3/1000s. : ± 2.5

Spreed
cm3/1000 strokes : 3.0

Check tolerance
cm3/1000s. : 7.0

Rated speed rpm : 300

Rack travel in mm : 9.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : \pm 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.05

Rated speed rpm : 500
guide sleeve
travel mm : 2.55
Tolerance mm : \pm 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.20
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 78.0
cm³/1000 strokes : \pm 0.5

Check tolerance
cm³/1000S. : \pm 2.5
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 64.0
tolerance degree : \pm 4.0

control lever
position degree : 114.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.50
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1590
Tolerance 1/min : \pm 20

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1750

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

control lever
position degree : 21.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 9.00
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 10.30

Rated speed rpm : 620

TORQUE CONTROL

Rated speed rpm : 1400
rack travel mm : 12.45
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 1000
rack travel mm : 12.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 13.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 375
rack travel mm : 12.60
Tolerance mm : \pm 0.10

Pressure hPa : 465
rack travel mm : 12.95
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 66.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 3.5

Aneroid pressure
hPa : 700
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 76.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 57.5
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000s. : \pm 2.5

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1445
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 76.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000s. : \pm 10.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000s. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.07.96
Test oil : ISO 4113

Combination No. : 9 400 085 310

Injection pump
Pump designation : PES6A95D410RS2772
EP type number : 9 400 084 018

Governor
Governor design. : RQV300...1300AB1066
: -8L
Governor no. : 9 420 080 279

Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366 LA
Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 99.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : \pm 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.05

Rated speed rpm : 500
guide sleeve
travel mm : 2.55
Tolerance mm : \pm 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.20
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 99.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 109.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.10
Rated speed rpm : 1365
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1500
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 68.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 8.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 11.15
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.15
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 0.40
Tolerance mm : \pm 0.10

Pressure hPa : 450
rack travel mm : 1.05
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 220

Check
speed 1/min : > 80
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 87.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 60.5

E05

cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1365
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.70
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 84.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 316
Injection pump
Pump designation : PES6A95D410RS2795
EP type number : 9 400 084 020
Governor
Governor design. : RQV300...1400AB1065
: -18L
Governor no. : 9 420 080 278
Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 9.95
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 69.5
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000S. : ± 3.0
Spreed
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.05

Rated speed rpm : 750
guide sleeve
travel mm : 4.20
Tolerance mm : \pm 0.10

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : \pm 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 2.55
Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1500
Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 69.5
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 62.0
tolerance degree : \pm 4.0

control lever
position degree : 110.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.90
Rated speed rpm : 1465
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1560
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1680

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 4.0

control lever
position degree : 21.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.90
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 555

TORQUE CONTROL

Rated speed rpm : 1400
rack travel mm : 9.95
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 9.95
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 250

Check
speed 1/min : > 80
Check
speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 51.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.90
Rated speed rpm : 1465
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.10
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 84.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000s. : \pm 10.0

LOW IDLE

Rated speed rpm : 300

E08

Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 327
Injection pump
Pump designation : PES6A95D410RS2772
EP type number : 9 400 084 018
Governor
Governor design. : RSV350...1250AOC1150
: -4L
Governor no. : 9 420 083 256
Cust. part No. :

Customer-spec. information

Customer : MBB
Motor : OM 366 A
Power KW : 121.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

E09

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 9.65
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 82.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.0
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.80
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 82.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.60
Rated speed rpm : 1295

Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1340
Tolerance 1/min : + 15

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.30

Testing:

Rated speed rpm : 350
rack travel mm : 6.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 9.65
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 9.65
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 9.70
Tolerance mm : + 0.10

Rated speed rpm : 400
rack travel mm : 11.10
Tolerance mm : + 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 74.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 8.60
Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 105.0
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

Note remarks

Edition : 23.04.96
Test oil : ISO 4113

Injection pump
Pump designation : PES4A95D410RS2805
EP type number : 9 400 084 026

Cust. part No. :

```
Customer-spec. information
Customer      : MBB
Motor        : OM 364
Power KW      : 66.0
```

Inlet Line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Inlet press. bar : 1.5

Test nozzle holder assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : \pm 1.5

Outside diameter : 6.0

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

Test pressure bar : 26.0
Tolerance bar : \pm 1.0

```
Prestroke mm      :      3.25
Tolerance mm      :  +-  0.05
Check
tolerance mm      :  +-  0.10
```

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Rated speed rpm : 1400

Rack travel in mm : 9.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 69.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 8.0

Rated speed rpm : 300

Rack travel in mm : 7.50
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 8.0
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spread
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1500
 guide sleeve
 travel mm : 8.55
 Tolerance mm : ± 0.05

Rated speed rpm : 750
 guide sleeve
 travel mm : 4.20
 Tolerance mm : ± 0.10

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.05
 Tolerance mm : ± 0.25

Rated speed rpm : 500
 guide sleeve
 travel mm : 2.55
 Tolerance mm : ± 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1500

Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 69.0
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spread

cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 62.0
 tolerance degree : ± 4.0

control lever
 position degree : 111.0
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 8.70
 Rated speed rpm : 1465
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1555
 Tolerance 1/min : ± 15

rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1680

LOW IDLE

control lever
 position degree : 69.0
 tolerance degree : ± 4.0

control lever
 position degree : 20.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 7.50
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 7.50

Rated speed rpm : 555

TORQUE CONTROL

Rated speed rpm : 1400
 rack travel mm : 9.75

Tolerance mm : \pm 0.05
Rated speed rpm : 700
rack travel mm : 9.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 250

Check
speed 1/min : > 80
Check
speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 56.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 1465
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.90
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 84.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000s. : \pm 10.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 8.0
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000s. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.96
Test oil : ISO 4113

Combination No. : 9 400 085 336

Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028

Governor
Governor design. : RQV350...1400AB1261L
Governor no. : 9 420 080 307

Cust. part No. : 9.0520.05.6.9502

Customer-spec. information
Customer : MWM
Motor : D 610 / X-10
Power KW : 110.7

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 71.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Spreed
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.50

Tolerance mm : \pm 0.10

Del. quantity

cm3/1000 strokes : 11.5

cm3/1000 strokes : \pm 2.0

Check tolerance

cm3/1000S. : \pm 4.5

Spreed

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350

guide sleeve

travel mm : 7.20

Tolerance mm : \pm 0.10

Rated speed rpm : 800

guide sleeve

travel mm : 3.95

Tolerance mm : \pm 0.25

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm : \pm 0.25

Rated speed rpm : 550

guide sleeve

travel mm : 2.75

Tolerance mm : \pm 0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Aneroid pressure

hPa : -

Del. quantity

cm3/1000 strokes : 71.0

cm3/1000 strokes : \pm 1.0

Check tolerance

cm3/1000S. : \pm 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000S. : 8.0

CONTROL LEVER

control lever

position degree : 58.0

tolerance degree : \pm 4.0

control lever

position degree : 113.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.70

Rated speed rpm : 1445

Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 1540

Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50

Rated speed rpm : 1680

LOW IDLE

control lever

position degree : 68.0

tolerance degree : \pm 4.0

control lever

position degree : 13.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.50
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1400
rack travel mm : 9.75
Tolerance mm : + 0.05

Rated speed rpm : 700
rack travel mm : 10.05
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 10.05
Tolerance mm : + 0.05

Rated speed rpm : 1300
rack travel mm : 9.75
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 270

Check
speed 1/min : > 80
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 62.5
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000

Del. quantity
cm³/1000 strokes : 72.0
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

BREAKAWAY

Rack travel in mm : 8.70
Rated speed rpm : 1445
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 11.5
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 337
Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028
Governor
Governor design. : RQV350...1300AB1260L
Governor no. : 9 420 080 306

Cust. part No. : 9.0520.05.6.9501

Customer-spec. information
Customer : MWM
Motor : TD 610 / X-10
Power KW : 143.9

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 12.05
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 94.5
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Spreed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.50

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 10.5

cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spreed
cm³/1000 strokes : 5.5

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350
guide sleeve
travel mm : 7.20
Tolerance mm : \pm 0.10

Rated speed rpm : 800
guide sleeve
travel mm : 3.95
Tolerance mm : \pm 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : \pm 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 2.75
Tolerance mm : \pm 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1490

Rack travel in mm : 16.50

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure
hPa : 800

Del. quantity
cm³/1000 strokes : 94.5

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Spreed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 56.0
tolerance degree : \pm 4.0

control lever
position degree : 111.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.00
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1505
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 67.0
tolerance degree : \pm 4.0

control lever
position degree : 12.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 6.50

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 12.05
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 850
rack travel mm : 12.35
Tolerance mm : \pm 0.05

Rated speed rpm : 1150
rack travel mm : 12.05
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 12.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 190
rack travel mm : 0.45
Tolerance mm : \pm 0.05

Pressure hPa : 460
rack travel mm : 1.55
Tolerance mm : \pm 0.15

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 270

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 95.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 59.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 10.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.05.96
Test oil : ISO 4113
Combination No. : 9 400 085 339
Injection pump
Pump designation : PES4A95D410RS2774
EP type number : 9 400 084 019
Governor
Governor design. : RQV300...1300AB1066
: -11L
Governor no. : 9 420 080 309
Cust. part No. : 0200742602

Customer-spec. information
Customer : MBB
Motor : OM 364 LA
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : + 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 3.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.55
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 103.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0
Speed
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000S. : 8.0
Rated speed rpm : 300

Rack travel in mm : 7.00
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 9.5
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350
 guide sleeve
 travel mm : 8.20
 Tolerance mm : + 0.10

Rated speed rpm : 1000
 guide sleeve
 travel mm : 5.75
 Tolerance mm : + 0.25

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.05
 Tolerance mm : + 0.25

Rated speed rpm : 700
 guide sleeve
 travel mm : 4.25
 Tolerance mm : + 0.25

Rated speed rpm : 1450
 guide sleeve
 travel mm : 9.15
 Tolerance mm : + 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1395
 Rack travel in mm : 16.50
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 800

Del. quantity
 cm³/1000 strokes : 103.0
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 63.0
 tolerance degree : + 4.0

control lever
 position degree : 112.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.50
 Rated speed rpm : 1360
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1475
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1630

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + 4.0

control lever
 position degree : 20.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 7.00
 Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 525

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.55
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : \pm 0.05

Rated speed rpm : 1100
rack travel mm : 11.75
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 11.85
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 11.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 500
rack travel mm : 1.45
Tolerance mm : \pm 0.15

Pressure hPa : 380
rack travel mm : 0.40
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 250

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 97.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 59.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1360
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 86.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.04.96
Test oil : ISO 4113

Combination No. : 9 400 085 340

Injection pump
Pump designation : PES6A95D410RS2795
EP type number : 9 400 084 020

Governor
Governor design. : RSV350...1250A0C1150
: -5L
Governor no. : 9 420 083 258

Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366
Power KW : 94.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 8.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 63.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 7.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : ± 0.35
governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 63.5
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 110.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 7.60
Rated speed rpm : 1295

E27

Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1347
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 82.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.50

Testing:

Rated speed rpm : 350
rack travel mm : 7.00
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 475
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 8.65
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : ± 0.10

Rated speed rpm : 400
rack travel mm : 10.10
Tolerance mm : ± 0.30

BREAKAWAY

Rack travel in mm : 7.60
Rated speed rpm : 1295
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.20
Tolerance mm : +- 0.10
Del. quantity
cm³/1000 strokes : 101.5
cm³/1000 strokes : +- 7.5
Check tolerance
cm³/1000S. : +- 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 341
Injection pump
Pump designation : PES4A95D410RS2805
EP type number : 9 400 084 026
Governor
Governor design. : RSV350...1300AOC1150
: -6L
Governor no. : 9 420 083 257
Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 364
Power KW : 60.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

F01

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 9.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 59.5
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0
Rated speed rpm : 350

Rack travel in mm : 7.50
 Tolerance mm : + 0.10
 Del. quantity
 cm3/1000 strokes : 9.0
 cm3/1000 strokes : + 2.0
 Check tolerance
 cm3/1000S. : + 4.5
 Spreed
 cm3/1000 strokes : 5.5
 Check tolerance
 cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : -
 Del. quantity
 cm3/1000 strokes : 59.5
 cm3/1000 strokes : + 1.0
 Check tolerance
 cm3/1000S. : + 3.0
 Spreed
 cm3/1000 strokes : 3.5
 Check tolerance
 cm3/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 111.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.40
 Rated speed rpm : 1345
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1405
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 82.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 7.00

Testing:

Rated speed rpm : 350
 rack travel mm : 7.50
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 500
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1300
 rack travel mm : 9.45
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 9.50
 Tolerance mm : + 0.10

Rated speed rpm : 400
 rack travel mm : 10.90
 Tolerance mm : + 0.30

BREAKAWAY

Rack travel in mm : 8.40

Rated speed rpm : 1345
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.90
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 94.0
cm³/1000 strokes : + 7.5
Check tolerance
cm³/1000S. : + 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.09.96
Test oil : ISO 4113

Combination No. : 9 400 087 344

Injection pump
Pump designation : P236-95D410RS2772
EP type number : 9 400 084 018

Governor
Governor design. : RSV350...900A7C2076L
Governor no. : 9 420 083 251

Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366A
Power KW : 107.3

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 860

Rack travel in mm : 10.45
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 86.5
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 3.0

Speed
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.00

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 7.0

cm³/1000 strokes : \pm 2.0

Check tolerance

cm³/1000S. : \pm 4.5

Spread

cm³/1000 strokes : 5.5

Check tolerance

cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : \pm 0.20

governor spring

pre-tension

click setting x : 5.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 860

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 86.5

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 3.0

Spread

cm³/1000 strokes : 3.5

Check tolerance

cm³/1000S. : 8.0

CONTROL LEVER

control lever

position degree : 108.0

tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 905

rack travel mm : 9.40

Rated speed rpm : 934

Tolerance 1/min : \pm 4

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55

Rated speed rpm : 1100

Rated speed rpm : 906

rack travel mm : 9.40

Rated speed rpm : 935

Tolerance 1/min : \pm 4

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55

Rated speed rpm : 1100

Rated speed rpm : 907

rack travel mm : 9.40

Rated speed rpm : 936

Tolerance 1/min : \pm 4

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55

Rated speed rpm : 1100

Rated speed rpm : 908

rack travel mm : 9.40

Rated speed rpm : 937

Tolerance 1/min : \pm 4

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55

Rated speed rpm : 1100

Rated speed rpm : 909

rack travel mm : 9.40

Rated speed rpm : 938

Tolerance 1/min : \pm 4

rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55

Rated speed rpm : 1100

Rated speed rpm : 910

rack travel mm : 9.40

Rated speed rpm : 939

Tolerance 1/min : \pm 4

rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 78.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 5.50

Testing:

Rated speed rpm : 350
rack travel mm : 6.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 860
rack travel mm : 10.45
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 10.50
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.30
Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.80
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 84.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 7.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

Note remarks

Edition : 23.04.96
Test oil : ISO 4113

Injection pump
Pump designation : PES4A95D410RS2805
EP type number : 9 400 084 026

Inst. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 364
Power KW : 46.0

Inlet Line : 4.1

Test oil inlet		
temp. °C	:	40
Tolerance °C	:	± 2.0

Inlet press. bar : 1.5

Test nozzle holder assembly : 0 681 343 009

Opening pressure : 173.5
Tolerance bar : \pm 1.5

Outside diameter : 6.0

F07

```
x inside diameter :      3.0
x length mm       :      600
```

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : \pm 1.0

```
Prestroke mm      :      3.25
Tolerance mm      :  +-  0.05
Check
tolerance mm      :  +-  0.10
```

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 860

Rack travel in mm : 8.65
Tolerance mm : ± 0.05

Del. quantity	
cm3/1000 strokes	: 58.5
cm3/1000 strokes	: +- 1.0

Check tolerance
cm3/1000S. : + 3.0

Spread
cm³/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.50
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 7.5
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : \pm 0.20
 governor spring
 pre-tension
 click setting x : 6.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 860
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 58.5
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0
 Spreed
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 8.0

CONTROL LEVER

control lever
 position degree : 112.0
 tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 910
 rack travel mm : 7.60

Rated speed rpm : 935
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

Rated speed rpm : 911
 rack travel mm : 7.60

Rated speed rpm : 936
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

Rated speed rpm : 912
 rack travel mm : 7.60

Rated speed rpm : 937
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

Rated speed rpm : 913
 rack travel mm : 7.60

Rated speed rpm : 938
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

Rated speed rpm : 914
 rack travel mm : 7.60

Rated speed rpm : 939
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

Rated speed rpm : 915
 rack travel mm : 7.60

Rated speed rpm : 940
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

rack travel mm : 0.85

Tolerance mm : \pm 0.55
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 82.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.00

Testing:

Rated speed rpm : 350
rack travel mm : 6.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 410
Tolerance 1/min : \pm 30

Rated speed rpm : 100
CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 860
rack travel mm : 8.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 9.60
Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.40
Tolerance mm : \pm 0.10
Del. quantity
cm3/1000 strokes : 84.0
cm3/1000 strokes : \pm 7.5

F09

Check tolerance
cm3/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm3/1000 strokes : 7.5
cm3/1000 strokes : \pm 2.0
Check tolerance
cm3/1000S. : \pm 4.5
Spreed
cm3/1000 strokes : 5.5
Check tolerance
cm3/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 348
Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028
Governor
Governor design. : RSV350...900A7C805L
Governor no. : 9 420 083 263
Cust. part No. : 9.0520.05.6.9504

Customer-spec. information
Customer : MWM
Motor : 6.10 TCA
Power KW : 154.5

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

F10

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 137.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0
Rated speed rpm :	350
Rack travel in mm :	5.50
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	17.5
cm3/1000 strokes :	+ 2.0
Check tolerance	
cm3/1000S. :	+ 4.5
Spreed	
cm3/1000 strokes :	5.5
Check tolerance	
cm3/1000S. :	9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
governor spring	
pre-tension	
click setting x :	5.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	850
Aneroid pressure	
hPa :	-
Del. quantity	
cm3/1000 strokes :	137.5
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S. :	+ 3.0
Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0

CONTROL LEVER

control lever	
position degree :	106.0
tolerance degree :	+ 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm :	900
rack travel mm :	13.00
Rated speed rpm :	945
Tolerance 1/min :	+ 4
rack travel mm :	4.00
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1100
Rated speed rpm :	901
rack travel mm :	13.00
Rated speed rpm :	946
Tolerance 1/min :	+ 4
rack travel mm :	4.00
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1100
Rated speed rpm :	902
rack travel mm :	13.00
Rated speed rpm :	947
Tolerance 1/min :	+ 4
rack travel mm :	4.00
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1100
Rated speed rpm :	903
rack travel mm :	13.00
Rated speed rpm :	948
Tolerance 1/min :	+ 4
rack travel mm :	4.00
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1100
Rated speed rpm :	904
rack travel mm :	13.00
Rated speed rpm :	949
Tolerance 1/min :	+ 4
rack travel mm :	4.00
rack travel mm :	0.85

Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

 Rated speed rpm : 905
 rack travel mm : 13.00

 Rated speed rpm : 950
 Tolerance 1/min : \pm 4
 rack travel mm : 4.00

 rack travel mm : 0.85
 Tolerance mm : \pm 0.55
 Rated speed rpm : 1100

LOW IDLE

control lever
 position degree : 75.0
 tolerance degree : \pm 4.0

 Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 5.00

Testing:

Rated speed rpm : 350
 rack travel mm : 5.50
 Tolerance mm : \pm 0.10

rack travel mm : 2.00
 Rated speed rpm : 395
 Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 850
 rack travel mm : 13.95
 Tolerance mm : \pm 0.05

Rated speed rpm : 550
 rack travel mm : 14.00
 Tolerance mm : \pm 0.10

Rated speed rpm : 400
 rack travel mm : 15.50
 Tolerance mm : \pm 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.00
 Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
 Del. quantity
 cm³/1000 strokes : 17.5
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.09.96
Test oil : ISO 4113
Combination No. : 9 400 085 349
Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028
Governor
Governor design. : RQV350...1250AB1260
: -1L
Governor no. : 9 420 080 330
Cust. part No. : 9.0520.05.6.9504

Customer-spec. information
Customer : MWM
Motor : 6.10 T
Power KW : 129.5

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 11.75
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 92.5
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Spread
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.20
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Spread
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350
guide sleeve
travel mm : 7.20
Tolerance mm : \pm 0.10

Rated speed rpm : 800
guide sleeve
travel mm : 3.95
Tolerance mm : \pm 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : \pm 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 2.75
Tolerance mm : \pm 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1490
Rack travel in mm : 16.50

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 92.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spread
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 54.0
tolerance degree : \pm 4.0

control lever
position degree : 110.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.70
Rated speed rpm : 1305
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1470
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1630

LOW IDLE

control lever
position degree : 68.0
tolerance degree : \pm 4.0

control lever
position degree : 12.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350

rack travel mm	:	5.20
Tolerance mm	:	+ 0.10
Rated speed rpm	:	100
CRT mm min.	:	> 7.00
Rated speed rpm	:	400

TORQUE CONTROL

Rated speed rpm	:	1250
rack travel mm	:	11.75
Tolerance mm	:	+ 0.05

Rated speed rpm	:	750
rack travel mm	:	12.15
Tolerance mm	:	+ 0.05

Rated speed rpm	:	900
rack travel mm	:	12.15
Tolerance mm	:	+ 0.05

Rated speed rpm	:	1050
rack travel mm	:	11.95
Tolerance mm	:	+ 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	500
Pressure hPa	:	800
rack travel mm	:	12.15
Tolerance mm	:	+ 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500

Rated speed rpm	:	500
-----------------	---	-----

Pressure hPa	:	480
rack travel mm	:	0.70
Tolerance mm	:	+ 0.10

Pressure hPa	:	380
rack travel mm	:	0.25
Tolerance mm	:	+ 0.05

START CUT-OUT

Rated speed rpm	:	> 100
Rated speed rpm	:	< 270

Check speed 1/min	:	> 80
Check speed 1/min	:	< 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	800
Rated speed rpm	:	750
Del. quantity cm ³ /1000 strokes	:	92.5
cm ³ /1000 strokes	:	+ 2.0
Check tolerance cm ³ /1000s.	:	+ 4.0
Speed cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000s.	:	8.0

Aneroid pressure hPa	:	800
Rated speed rpm	:	900
Del. quantity cm ³ /1000 strokes	:	96.0
cm ³ /1000 strokes	:	+ 2.0
Check tolerance cm ³ /1000s.	:	+ 4.0
Speed cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000s.	:	8.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	73.0
cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000s.	:	+ 3.0
Speed cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000s.	:	8.0

BREAKAWAY

Rack travel in mm	:	10.70
Rated speed rpm	:	1305
Tolerance 1/min	:	+ 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 9.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 352
Injection pump
Pump designation : PES6A95D410RS2795
EP type number : 9 400 084 020
Governor
Governor design. : RSV350...1050AOC1150
 : -7L
Governor no. : 9 420 083 287
Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366
Power KW : 70.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 7.85
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 48.5
cm3/1000 strokes : ± 1.0
Check tolerance
cm3/1000s. : ± 3.0
Speed
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 8.0

Rated speed rpm : 350

Rack travel in mm : 7.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 13.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : \pm 0.35
governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 48.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 105.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 6.80
Rated speed rpm : 1095

Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1145
Tolerance 1/min : \pm 15
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 85.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.50

Testing:

Rated speed rpm : 350
rack travel mm : 7.00
Tolerance mm : \pm 0.10
rack travel mm : 2.00
Rated speed rpm : 585
Tolerance 1/min : \pm 30
Rated speed rpm : 100
CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 7.85
Tolerance mm : \pm 0.05
Rated speed rpm : 600
rack travel mm : 9.25
Tolerance mm : \pm 0.05
Rated speed rpm : 900
rack travel mm : 8.20
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 54.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 53.5
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 6.80
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 84.0
cm³/1000 strokes : ± 7.5
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 13.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.96
Test oil : ISO 4113

Combination No. : 9 400 085 356

Injection pump
Pump designation : PES6A85D410RS2756
EP type number : 9 400 093 006

Governor
Governor design. : RSV325...1150A1C1165
: L
Governor no. : 9 420 083 290

Cust. part No. :

Customer-spec. information
Customer : DEUTZ ARG.
Motor : BF6L913
Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 32.0
Tolerance bar : ± 1.0

Prestroke mm : 1.95
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 73.0

cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Spreed
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 325

Rack travel in mm : 8.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : \pm 0.35

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 73.0
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.5
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 114.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.30
Rated speed rpm : 1195

Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1380

LOW IDLE

control lever
position degree : 77.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 7.50

Testing:

Rated speed rpm : 325
rack travel mm : 8.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 570
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 11.35
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 13.05
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.35
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 79.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 76.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5

BREAKAWAY

Rack travel in mm : 10.30
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 11.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 357
Injection pump
Pump designation : PES6A80D410RS2755
EP type number : 9 400 093 005
Governor
Governor design. : RSV325...1150A1C1165
: L
Governor no. : 9 420 083 290
Cust. part No. :

Customer-spec. information
Customer : DEUTZ ARG.
Motor : F6L913
Power KW : 96.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.95
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 9.35
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 54.5

cm3/1000 strokes : ± 0.5

Check tolerance
cm3/1000S. : ± 2.0

Speed
cm3/1000 strokes : 2.5

Check tolerance
cm3/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 6.50
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 7.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : \pm 0.35
governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 54.5
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 4.0

CONTROL LEVER

control lever
position degree : 115.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.30
Rated speed rpm : 1195

Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1225
Tolerance 1/min : \pm 15
rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1380

LOW IDLE

control lever
position degree : 79.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 6.00

Testing:

Rated speed rpm : 325
rack travel mm : 6.50
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 525
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 9.35
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 11.15
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 10.35
Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 62.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 57.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 8.30
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 7.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 358
Injection pump
Pump designation : PES5A80D410RS2526
EP type number : 9 400 093 007
Governor
Governor design. : RSV325...1075A1C1166
: L
Governor no. : 9 420 083 291
Cust. part No. :

Customer-spec. information
Customer : DEUTZ ARG.
Motor : F5L913
Power KW : 87.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2
Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : + 1.5
Test lines : 1 680 750 003
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 1.95
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 3- 5- 4- 2
Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 1075
Rack travel in mm : 9.45
Tolerance mm : + 0.05
Del. quantity
cm3/1000 strokes : 53.0
cm3/1000 strokes : + 0.5
Check tolerance
cm3/1000S. : + 2.0
Speed
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 4.0
Rated speed rpm : 325

Rack travel in mm : 6.50
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 7.5
 cm³/1000 strokes : + 1.5
 Check tolerance
 cm³/1000S. : + 3.5
 Spread
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 53.0
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.0
 Spread
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

CONTROL LEVER

control lever
 position degree : 111.0
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.40
 Rated speed rpm : 1120
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1155
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1320

LOW IDLE

control lever
 position degree : 79.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 6.00

Testing:

Rated speed rpm : 325
 rack travel mm : 6.50
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 525
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1075
 rack travel mm : 9.45
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 11.25
 Tolerance mm : + 0.05

Rated speed rpm : 800
 rack travel mm : 10.55
 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 62.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 58.0
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 1120
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 7.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.96
Test oil : ISO 4113

Combination No. : 9 400 085 359

Injection pump
Pump designation : PES4A80D410RS2523
EP type number : 9 400 093 008

Governor
Governor design. : RSV325...1075A1C1166
: L
Governor no. : 9 420 083 291

Cust. part No. :

Customer-spec. information
Customer : DEUTZ ARG.
Motor : F4L913
Power KW : 56.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

G01

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 1.95
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 10.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 60.5
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.0

Speed
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 4.0

Rated speed rpm : 325

Rack travel in mm : 6.50
 Tolerance mm : +- 0.10
 Del. quantity
 cm³/1000 strokes : 7.5
 cm³/1000 strokes : +- 1.5
 Check tolerance
 cm³/1000S. : +- 3.5
 Spreed
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : +- 0.35
 governor spring
 pre-tension
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 60.5
 cm³/1000 strokes : +- 0.5
 Check tolerance
 cm³/1000S. : +- 2.0
 Spreed
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

CONTROL LEVER

Control Lever
 position degree : 112.0
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 9.20
 Rated speed rpm : 1120
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1160
 Tolerance 1/min : +- 15
 rack travel mm : 0.85
 Tolerance mm : +- 0.55
 Rated speed rpm : 1320

LOW IDLE

control lever
 position degree : 79.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 6.00

Testing:

Rated speed rpm : 325
 rack travel mm : 6.50
 Tolerance mm : +- 0.10

rack travel mm : 2.00
 Rated speed rpm : 525
 Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1075
 rack travel mm : 10.25
 Tolerance mm : +- 0.05

Rated speed rpm : 500
 rack travel mm : 11.05
 Tolerance mm : +- 0.05

Rated speed rpm : 750
 rack travel mm : 10.65
 Tolerance mm : +- 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : -
 Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 61.0
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000s. : ± 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 59.0
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000s. : ± 3.0

BREAKAWAY

Rack travel in mm : 9.20
Rated speed rpm : 1120
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00

LOW IDLE

Rated speed rpm : 325
Del. quantity
cm³/1000 strokes : 7.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000s. : ± 3.5
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.96
Test oil : ISO 4113

Combination No. : 9 400 085 365

Injection pump
Pump designation : PES6A90D410RS2823
EP type number : 0 410 896 093

Governor
Governor design. : RQV300...1350AB1278L
Governor no. : 9 420 080 359

Cust. part No. : 98455951

Customer-spec. information
Customer : FIAT ARGENTINA
Motor : 8.060.25.600
Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1350

Rack travel in mm : 11.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 82.0

cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 7.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 10.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.25
Tolerance mm : \pm 0.25

Rated speed rpm : 1015
guide sleeve
travel mm : 6.05
Tolerance mm : \pm 0.25

Rated speed rpm : 460
guide sleeve
travel mm : 2.45
Tolerance mm : \pm 0.25

Rated speed rpm : 640
guide sleeve
travel mm : 3.45
Tolerance mm : \pm 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 8.45
Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1480

Rack travel in mm : 12.20
Tolerance mm : \pm 1.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1350

Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 82.0
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.5
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 116.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.50
Rated speed rpm : 1395
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1530
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.60
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 8.00

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1350
rack travel mm : 11.55

Tolerance mm : + 0.05

Rated speed rpm : 500

rack travel mm : 12.55

Tolerance mm : + 0.05

Rated speed rpm : 800

rack travel mm : 12.10

Tolerance mm : + 0.10

Rated speed rpm : 900

rack travel mm : 11.70

Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 800

rack travel mm : 12.55

Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500

rack travel mm : 10.40

Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 520

rack travel mm : 12.10

Tolerance mm : + 0.10

Pressure hPa : 400

rack travel mm : 10.75

Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : > 100

Rated speed rpm : < 220

Check

speed 1/min : > 80

Check

speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 800

Rated speed rpm : 800

Del. quantity

cm³/1000 strokes : 81.5

cm³/1000 strokes : + 1.5

Check tolerance

cm³/1000s. : + 3.5

Aneroid pressure

hPa : -

Rated speed rpm : 500

Del. quantity

cm³/1000 strokes : 50.0

cm³/1000 strokes : + 0.5

Check tolerance

cm³/1000s. : + 2.5

BREAKAWAY

Rack travel in mm : 10.50

Rated speed rpm : 1395

Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.00

Tolerance mm : + 1.00

Del. quantity

cm³/1000 strokes : 156.0

cm³/1000 strokes : + 8.0

Check tolerance

cm³/1000s. : + 11.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm³/1000 strokes : 10.0

cm³/1000 strokes : + 2.0

Check tolerance

cm³/1000s. : + 4.0

Spread

cm³/1000 strokes : 4.5

Check tolerance

cm³/1000s. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.96
Test oil : ISO 4113

Combination No. : 9 400 085 367

Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028

Governor
Governor design. : RQV350...1250AB1280L
Governor no. : 9 420 080 365

Cust. part No. : 9.0520.05.6.9505

Customer-spec. information
Customer : MWM
Motor : 6.10 T
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 96.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.10
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 16.0
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Spread
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350
guide sleeve
travel mm : 7.20
Tolerance mm : + 0.10

Rated speed rpm : 800
guide sleeve
travel mm : 3.95
Tolerance mm : + 0.25

Rated speed rpm : 300
guide sleeve
travel mm : 1.05
Tolerance mm : + 0.25

Rated speed rpm : 550
guide sleeve
travel mm : 2.75
Tolerance mm : + 0.25

Rated speed rpm : 1500
guide sleeve
travel mm : 8.55
Tolerance mm : + 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1490
Rack travel in mm : 16.50

G08

Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 96.5
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0
Spread
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 55.0
tolerance degree : + 4.0

control lever
position degree : 110.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.00
Rated speed rpm : 1318
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1480
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

control lever
position degree : 14.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 6.10
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 8.50

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 12.05
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 12.45
Tolerance mm : \pm 0.05

Rated speed rpm : 1050
rack travel mm : 12.25
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.45
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 520
rack travel mm : 2.25
Tolerance mm : \pm 0.15

Pressure hPa : 260
rack travel mm : 0.80
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 270

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 97.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : 900
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 99.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 49.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1318
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 11.0

LOW IDLE

Rated speed rpm : 350

Del. quantity
cm³/1000 strokes : 16.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 373
Injection pump
Pump designation : PES6A95D410RS2795
EP type number : 9 400 084 020
Governor
Governor design. : RSV350...1250AOC1169
: L
Governor no. : 9 420 083 296

Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366
Power KW : 94.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 8.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 63.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 7.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : \pm 0.35
governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 63.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 110.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 7.60
Rated speed rpm : 1295

Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1347
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 82.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.50

Testing:

Rated speed rpm : 350
rack travel mm : 7.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 475
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 8.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 8.70
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 10.10
Tolerance mm : \pm 0.30

BREAKAWAY

Rack travel in mm : 7.60
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 101.5
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 374
Injection pump
Pump designation : PES6A95D410RS2772
EP type number : 9 400 084 018
Governor
Governor design. : RSV350...1250A0C1170
: L
Governor no. : 9 420 083 297
Cust. part No. :

Customer-spec. information
Customer : MBB
Motor : OM 366 A
Power KW : 121.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0 681 343 009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 9.65
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 82.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 6.80
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.65
Tolerance mm : \pm 0.35
governor spring
pre-tension
click setting x : 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 82.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 8.0

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 8.60
Rated speed rpm : 1295

Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1340
Tolerance 1/min : \pm 15
rack travel mm : 1.00
Tolerance mm : \pm 0.70
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 75.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 6.30

Testing:

Rated speed rpm : 350
rack travel mm : 6.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : \pm 30

Rated speed rpm : 100

CRT mm min. : $>$ 19.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 9.65
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 9.65
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Rated speed rpm : 400
rack travel mm : 11.10
Tolerance mm : \pm 0.30

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 74.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 8.60
Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 105.0
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 375
Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028
Governor
Governor design. : RSV350...1250A8C808L
Governor no. : 9 420 083 298

Cust. part No. : 9.0520.05.6.9506

Customer-spec. information
Customer : MWM
Motor : 6.10 TCA
Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 119.5

cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000s. : ± 3.0

Spreed	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 8.0
Rated speed rpm	: 350
Rack travel in mm	: 6.50
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 20.5
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000S.	: + 4.5
Spreed	
cm3/1000 strokes	: 5.5
Check tolerance	
cm3/1000S.	: 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
governor spring	
pre-tension	
click setting x	: 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: -
Del. quantity	
cm3/1000 strokes	: 119.5
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 3.0
Spreed	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 8.0

CONTROL LEVER

control lever	
position degree	: 107.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 12.30
Rated speed rpm	: 1305
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1360
Tolerance 1/min	: + 15
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1500

LOW IDLE

control lever	
position degree	: 65.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 350
rack travel mm	: 6.00

Testing:

Rated speed rpm	: 350
rack travel mm	: 6.50
Tolerance mm	: + 0.10
rack travel mm	: 2.00
Rated speed rpm	: 435
Tolerance 1/min	: + 30
Rated speed rpm	: 100
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1250
rack travel mm	: 13.35
Tolerance mm	: + 0.05
Rated speed rpm	: 600
rack travel mm	: 13.35
Tolerance mm	: + 0.05
Rated speed rpm	: 400
rack travel mm	: 14.80

Tolerance mm : \pm 0.30

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1305
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 156.0
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000S. : \pm 11.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 20.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 10.04.96

Test oil : ISO 4113

Combination No. : 9 400 085 376

Injection pump

Pump designation : PES4A95D320RS2807

EP type number : 0 410 894 994

Governor

Governer design. : RSV375...1150A2C2282

: R

Governer no. : 9 420 083 302

Cust. part No. :

Customer-spec. information

Customer : VALMET

Motor : 420 DS

Power KW : 77.2

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde assembly

: 0 681 343 009

Opening pressure bar

: 173.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

G20

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 2.40

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 2- 4- 3

Phasing : 0-90-180-270

Beginning of delivery differende

and maximum rack

travel : 10.50

Tolerance mm : ± 1.50

Difference ° CS : 5.00

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.25

Tolerance mm : ± 0.05

Del. quantity

cm3/1000 strokes : 101.0

cm3/1000 strokes : ± 1.0

Check tolerance

cm3/1000S. : ± 3.0

Speed

cm³/1000 strokes : 3.5

Check tolerance
cm³/1000s. : 8.0

Rated speed rpm : 375

Rack travel in mm : 5.60
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 4.5

Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000s. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 101.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 3.0
Speed
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000s. : 8.0

CONTROL LEVER

control lever
position degree : 51.0
tolerance degree : ± 4.0

control lever
position degree : 101.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.20
Rated speed rpm : 1195
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1290
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

control lever
position degree : 25.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 375
rack travel mm : 5.10

Testing:

Rated speed rpm : 375
rack travel mm : 5.60
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 495
Tolerance 1/min : ± 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.25
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 12.75

Tolerance mm : \pm 0.05
Rated speed rpm : 700
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 950
rack travel mm : 12.45
Tolerance mm : \pm 0.05

Check tolerance
cm³/1000s. : 9.0

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 101.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 202.0
cm³/1000 strokes : \pm 8.0
Check tolerance
cm³/1000s. : \pm 11.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000s. : \pm 4.5
Speed
cm³/1000 strokes : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.96
Test oil : ISO 4113
Combination No. : 9 400 085 384
Injection pump
Pump designation : PES4A95D410RS2887
EP type number : 9 400 084 040
Governor
Governor design. : RQV300...1300AB1307L
Governor no. : 9 420 080 385

Cust. part No. : 0260745402

Customer-spec. information
Customer : MBB
Motor : OM 364A/ EURO I
Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 85.0
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 8.0

Rated speed rpm : 300

Rack travel in mm :	8.20
Tolerance mm :	+ 0.10
Del. quantity	
cm3/1000 strokes :	13.0
cm3/1000 strokes :	+ 2.0
Check tolerance	
cm3/1000S. :	+ 4.5
Speed	
cm3/1000 strokes :	5.5
Check tolerance	
cm3/1000S. :	9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve	
travel mm :	1.05
Tolerance mm :	+ 0.25

Rated speed rpm :	1500
guide sleeve	
travel mm :	8.55
Tolerance mm :	+ 0.05

Rated speed rpm :	500
guide sleeve	
travel mm :	2.55
Tolerance mm :	+ 0.25

Rated speed rpm :	750
guide sleeve	
travel mm :	4.20
Tolerance mm :	+ 0.10

GUIDE SLEEVE POSITION

Rated speed rpm :	1500
-------------------	------

Rack travel in mm :	16.50
Tolerance mm :	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1300
Aneroid pressure	
hPa :	700
Del. quantity	
cm3/1000 strokes :	85.0
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S. :	+ 3.0
Speed	

cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0

CONTROL LEVER

control lever	
position degree :	59.0
tolerance degree :	+ 4.0

control lever	
position degree :	110.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	10.00
Rated speed rpm :	1345
Tolerance 1/min :	+ 5

rack travel mm :	4.00
Rated speed rpm :	1485
Tolerance 1/min :	+ 15

rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1640

LOW IDLE

control lever	
position degree :	71.0
tolerance degree :	+ 4.0

control lever	
position degree :	22.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	300
rack travel mm :	8.20
Tolerance mm :	+ 0.10

Rated speed rpm :	100
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CRT mm min. :	> 9.50
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Rated speed rpm :	415
-------------------	-----

TORQUE CONTROL

Rated speed rpm :	1300
rack travel mm :	11.05

Tolerance mm : \pm 0.05

Rated speed rpm : 640
 rack travel mm : 11.95
 Tolerance mm : \pm 0.05

Rated speed rpm : 950
 rack travel mm : 11.35
 Tolerance mm : \pm 0.05

Rated speed rpm : 800
 rack travel mm : 11.65
 Tolerance mm : \pm 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 700
 rack travel mm : 11.95
 Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 240
 rack travel mm : 0.35
 Tolerance mm : \pm 0.05

Pressure hPa : 350
 rack travel mm : 1.10
 Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
 Rated speed rpm : $<$ 250

Check
 speed 1/min : $>$ 80
 Check
 speed 1/min : $<$ 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 700
 Rated speed rpm : 800
 Del. quantity
 cm³/1000 strokes : 81.5

cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 57.5
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.00
 Rated speed rpm : 1345
 Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 14.20
 Tolerance mm : \pm 0.10
 Del. quantity
 cm³/1000 strokes : 82.5
 cm³/1000 strokes : \pm 7.5
 Check tolerance
 cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 300
 Del. quantity
 cm³/1000 strokes : 13.0
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 4.5
 Spreed
 cm³/1000 strokes : 5.5
 Check tolerance
 cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 386
Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028
Governor
Governor design. : RQV350...1300AB1304L
Governor no. : 9 420 080 382

Cust. part No. :

Customer-spec. information

Customer : MWM
Motor : 6.10 T
Power KW : 124.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.80
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery difference

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.65
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 91.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 350

Rack travel in mm : 5.80

Tolerance mm : \pm 0.10

Del. quantity

cm3/1000 strokes : 12.5

cm3/1000 strokes : \pm 2.0

Check tolerance

cm3/1000S. : \pm 4.5

Spreed

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1350

guide sleeve

travel mm : 7.20

Tolerance mm : \pm 0.10

Rated speed rpm : 800

guide sleeve

travel mm : 3.95

Tolerance mm : \pm 0.25

Rated speed rpm : 300

guide sleeve

travel mm : 1.05

Tolerance mm : \pm 0.25

Rated speed rpm : 550

guide sleeve

travel mm : 2.75

Tolerance mm : \pm 0.25

Rated speed rpm : 1500

guide sleeve

travel mm : 8.55

Tolerance mm : \pm 0.25

GUIDE SLEEVE POSITION

Rated speed rpm : 1485

Rack travel in mm : 16.50

G27

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure

hPa : 900

Del. quantity

cm3/1000 strokes : 91.0

cm3/1000 strokes : \pm 1.0

Check tolerance

cm3/1000S. : \pm 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000S. : 8.0

CONTROL LEVER

control lever

position degree : 58.0

tolerance degree : \pm 4.0

control lever

position degree : 113.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.60

Rated speed rpm : 1418

Tolerance 1/min : \pm 8

rack travel mm : 4.00

Rated speed rpm : 1550

Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50

Rated speed rpm : 1700

LOW IDLE

control lever

position degree : 69.0

tolerance degree : \pm 4.0

control lever

position degree : 13.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350

rack travel mm : 5.80
 Tolerance mm : + 0.10
 Rated speed rpm : 100
 CRT mm min. : > 8.00
 Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1300
 rack travel mm : 11.65
 Tolerance mm : + 0.05
 Rated speed rpm : 800
 rack travel mm : 12.05
 Tolerance mm : + 0.05
 Rated speed rpm : 880
 rack travel mm : 12.05
 Tolerance mm : + 0.05
 Rated speed rpm : 1260
 rack travel mm : 11.65
 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 900
 rack travel mm : 12.05
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 Rated speed rpm : 500
 Pressure hPa : 470
 rack travel mm : 1.75
 Tolerance mm : + 0.15
 Pressure hPa : 270
 rack travel mm : 0.60
 Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 100
 Rated speed rpm : < 270

Check
 speed 1/min : > 80
 Check
 speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 900
 Rated speed rpm : 800
 Del. quantity
 cm³/1000 strokes : 93.0
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000s. : + 4.0
 Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 51.0
 cm³/1000 strokes : + 1.5
 Check tolerance
 cm³/1000s. : + 3.0

BREAKAWAY

Rack travel in mm : 10.60
 Rated speed rpm : 1418
 Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 20.00
 Tolerance mm : + 1.00
 Del. quantity
 cm³/1000 strokes : 155.0
 cm³/1000 strokes : + 8.0
 Check tolerance
 cm³/1000s. : + 11.0

LOW IDLE

Rated speed rpm : 350
 Del. quantity
 cm³/1000 strokes : 12.5
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000s. : + 4.5
 Spread

cm3/1000 strokes : 5.5
Check tolerance
cm3/1000s. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.04.96
Test oil : ISO 4113
Combination No. : 9 400 085 389
Injection pump
Pump designation : PES6A95D410RS2812
EP type number : 9 400 084 028
Governor
Governor design. : RQV350...1300AB1309L
Governor no. : 9 420 080 386

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : 6.10 TCA
Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

H02

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Beginning of delivery differende

and maximum rack
travel : 10.50
Tolerance mm : ± 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 99.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 3.0

Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0
Rated speed rpm :	350
Rack travel in mm :	5.80
Tolerance mm : +	0.10
Del. quantity	
cm3/1000 strokes :	13.0
cm3/1000 strokes : +	2.0
Check tolerance	
cm3/1000S. : +	4.5
Spreed	
cm3/1000 strokes :	5.5
Check tolerance	
cm3/1000S. :	9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	1350
guide sleeve	
travel mm :	7.20
Tolerance mm : +	0.10

Rated speed rpm :	800
guide sleeve	
travel mm :	3.95
Tolerance mm : +	0.25

Rated speed rpm :	300
guide sleeve	
travel mm :	1.05
Tolerance mm : +	0.25

Rated speed rpm :	550
guide sleeve	
travel mm :	2.75
Tolerance mm : +	0.25

Rated speed rpm :	1500
guide sleeve	
travel mm :	8.55
Tolerance mm : +	0.25

GUIDE SLEEVE POSITION

Rated speed rpm :	1490
Rack travel in mm :	16.50

H03

Tolerance mm :	+ 1.30
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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1300
Aneroid pressure	
hPa :	900
Del. quantity	
cm3/1000 strokes :	99.0
cm3/1000 strokes : +	1.0
Check tolerance	
cm3/1000S. : +	3.0
Spreed	
cm3/1000 strokes :	3.5
Check tolerance	
cm3/1000S. :	8.0

CONTROL LEVER

control lever	
position degree :	59.0
tolerance degree : +	4.0

control lever	
position degree :	114.0
tolerance degree : +	4.0

RATED SPEED

rack travel mm :	10.90
Rated speed rpm :	1425
Tolerance 1/min : +	5

rack travel mm :	4.00
Rated speed rpm :	1560
Tolerance 1/min : +	15

rack travel mm :	0.50
Tolerance mm : +	0.50
Rated speed rpm :	1730

LOW IDLE

control lever	
position degree :	69.0
tolerance degree : +	4.0

control lever	
position degree :	13.0
tolerance degree : +	4.0

Testing:

Rated speed rpm :	350
-------------------	-----

rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 8.00

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.95
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 11.95
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.95
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 380
rack travel mm : 1.80
Tolerance mm : ± 0.10

Pressure hPa : 190
rack travel mm : 0.55
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 270

Check
speed 1/min : > 80
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

H04

Aneroid pressure
hPa : 900
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 94.5
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 51.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1425
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : ± 8.0
Check tolerance
cm³/1000S. : ± 11.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 13.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.10.96

Test oil : ISO 4113

Combination No. : 9 400 087 319

Injection pump

Pump designation : PE6P110A720RS371-1

EP type number : 0 411 816 166

Governor

Governor design. : RGV300...1050PA747

Governor no. : 9 420 080 195

Cust. part No. :

Customer-spec. information

Customer : MBB

Motor : OM 355 A

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder assembly

: 0 681 343 009

Opening pressure

bar : 173.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 004

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 2.85

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.55

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 162.0

cm³/1000 strokes : ± 1.0

Check tolerance

cm³/1000S. : ± 4.0

Speed

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 6.00
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 18.5
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 1070
guide sleeve
travel mm : 8.55
Tolerance mm : \pm 0.05

Rated speed rpm : 800
guide sleeve
travel mm : 5.65
Tolerance mm : \pm 0.15

Rated speed rpm : 270
guide sleeve
travel mm : 1.00
Tolerance mm : \pm 0.20

Rated speed rpm : 450
guide sleeve
travel mm : 2.95
Tolerance mm : \pm 0.15

GUIDE SLEEVE POSITION

Rated speed rpm : 1070

Rack travel in mm : 16.50
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 162.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 67.0
tolerance degree : \pm 4.0

control lever
position degree : 103.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.50
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1165
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 52.0
tolerance degree : \pm 4.0

control lever
position degree : 16.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 8.60

Rated speed rpm : 305

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.55
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 11.55
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 230

Check
speed 1/min : > 80
Check
speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 154.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 132.5
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 18.5

H08

cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.06.96
Test oil : ISO 4113
Combination No. : 0 402 066 707
Injection pump
Pump designation : PES6P120A120RS3358
EP type number : 0 412 026 784
Governor
Governor design. : RSV475...1100P2A618
Governor no. : 0 421 833 513

Cust. part No. : 3927356

Customer-spec. information
Customer : CDC
Motor : 6BTA ELITE
Power KW : 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

H09

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 6.75
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 146.5

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 475

Rack travel in mm : 5.40
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 24.5
cm³/1000 strokes : \pm 2.0

Check tolerance
cm³/1000S. : \pm 4.5

Speed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 3.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 146.5
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 3.0

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 103.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.30
Rated speed rpm : 1175
Tolerance 1/min : \pm 5

rack travel mm : 6.50
Rated speed rpm : 1230
Tolerance 1/min : \pm 5

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1375

LOW IDLE

control lever
position degree : 84.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 475
rack travel mm : 4.90

Testing:

Rated speed rpm : 475
rack travel mm : 5.40
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.35
Tolerance mm : \pm 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.45
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 10.65
Tolerance mm : \pm 0.20

Pressure hPa : 545
rack travel mm : 9.50
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 86.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.30
Rated speed rpm : 1175
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 165.0
cm³/1000 strokes : \pm 20.0

Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 475
Del. quantity
cm³/1000 strokes : 24.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 834

Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 882

Governor
Governor design. : RQV350...1100PA964
: -12K
Governor no. : 0 421 815 323

Cust. part No. : 3922471

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 211.0
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000s.	: + 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000s.	: 9.0
Rated speed rpm	: 375

Rack travel in mm	: 6.80
Tolerance mm	: + 0.20
Del. quantity	
cm ³ /1000 strokes	: 23.5
cm ³ /1000 strokes	: + 3.0
Check tolerance	
cm ³ /1000s.	: + 5.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000s.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 211.0
cm ³ /1000 strokes	: + 1.0
Check tolerance	
cm ³ /1000s.	: + 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000s.	: 9.0

CONTROL LEVER

control lever	
position degree	: 117.0
tolerance degree	: + 6.0

RATED SPEED

H13

rack travel mm	: 12.40
Rated speed rpm	: 1280
Tolerance 1/min	: + 15

rack travel mm	: 4.00
Rated speed rpm	: 1405
Tolerance 1/min	: + 5

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever	
position degree	: 71.0
tolerance degree	: + 6.0

Testing:

Rated speed rpm	: 375
rack travel mm	: 6.80
Tolerance mm	: + 0.20

Rated speed rpm	: 275
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CRT mm min.	: > 8.30
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 13.95
Tolerance mm	: + 0.05

Rated speed rpm	: 650
rack travel mm	: 12.20
Tolerance mm	: + 0.20

Rated speed rpm	: 1200
rack travel mm	: 13.50
Tolerance mm	: + 0.10

Rated speed rpm	: 750
rack travel mm	: 12.40
Tolerance mm	: + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.90
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 650
rack travel mm : 12.70
Tolerance mm : \pm 0.20

Pressure hPa : 310
rack travel mm : 10.20
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 176.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 86.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1280
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 200.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 23.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 837

Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 882

Governor
Governor design. : RQV350...1100PA964
 : -15K
Governor no. : 0 421 815 332

Cust. part No. : 3922449

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.85
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 216.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 375

Rack travel in mm	: 6.50
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 25.0
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 216.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 120.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 12.40
Rated speed rpm	: 1165
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1300
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1400

LOW IDLE

control lever	
position degree	: 69.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 375
rack travel mm	: 6.50
Tolerance mm	: ± 0.20

Rated speed rpm	: 275
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CRT mm min.	: > 8.10
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 13.85
Tolerance mm	: ± 0.05

Rated speed rpm	: 650
rack travel mm	: 13.30
Tolerance mm	: ± 0.20

Rated speed rpm	: 1100
rack travel mm	: 13.50
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 1000
Pressure hPa	: 1200

MEASUREMENT

Pressure hPa :
Rated speed rpm : 1000
rack travel mm : 9.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1000

Pressure hPa : 765
rack travel mm : 13.30
Tolerance mm : \pm 0.20

Pressure hPa : 325
rack travel mm : 10.65
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 208.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 96.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1165
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 200.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 25.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 838

Injection pump
Pump designation : PES6P120A120RS7275
EP type number : 0 412 726 886

Governor
Governor design. : RQV400...1250PA964
: -16K
Governor no. : 0 421 815 334

Cust. part No. : 3921918

Customer-spec. information

Customer : CDC
Motor : 6BTA-A
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 153.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0
Rated speed rpm	: 400

Rack travel in mm	: 6.20
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 17.0
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 153.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

CONTROL LEVER

control lever	
position degree	: 116.0
tolerance degree	: ± 6.0

RATED SPEED

H19

rack travel mm	: 12.40
Rated speed rpm	: 1325
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1565
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1675

LOW IDLE

control lever	
position degree	: 71.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 400
rack travel mm	: 6.20
Tolerance mm	: ± 0.20

Rated speed rpm	: 300
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CRT mm min.	: > 7.70
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Rated speed rpm	: 422
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TORQUE CONTROL

Rated speed rpm	: 1250
rack travel mm	: 13.45
Tolerance mm	: ± 0.05

Rated speed rpm	: 800
rack travel mm	: 11.80
Tolerance mm	: ± 0.20

Rated speed rpm	: 500
rack travel mm	: 11.40
Tolerance mm	: ± 0.20

Rated speed rpm	: 900
rack travel mm	: 12.20
Tolerance mm	: ± 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.50
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 440
rack travel mm : 12.90
Tolerance mm : \pm 0.20

Pressure hPa : 265
rack travel mm : 11.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 280

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 133.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 110.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 17.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 839

Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 882

Governor
Governor design. : RQV350...1100PA964
: -17K
Governor no. : 0 421 815 335

Cust. part No. : 3922424

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 167.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 199.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000s.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000s.	: 9.0
Rated speed rpm	: 375

Rack travel in mm	: 6.40
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 22.0
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000s.	: ± 5.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000s.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 199.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000s.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000s.	: 9.0

CONTROL LEVER

control lever	
position degree	: 115.0
tolerance degree	: ± 6.0

RATED SPEED

H22

rack travel mm	: 11.90
Rated speed rpm	: 1260
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1385
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1450

LOW IDLE

control lever	
position degree	: 72.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 375
rack travel mm	: 6.40
Tolerance mm	: ± 0.20

Rated speed rpm	: 275
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CRT mm min.	: > 7.90
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 13.25
Tolerance mm	: ± 0.05

Rated speed rpm	: 650
rack travel mm	: 12.40
Tolerance mm	: ± 0.20

Rated speed rpm	: 1200
rack travel mm	: 13.00
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 1100
Pressure hPa	: 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 520
rack travel mm : 11.80
Tolerance mm : \pm 0.20

Pressure hPa : 255
rack travel mm : 9.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 188.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 88.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1260
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 215.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113
Combination No. : 0 402 736 840
Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 882

Governor
Governor design. : RQV350...1100PA964
: -18K
Governor no. : 0 421 815 336

Cust. part No. : 3922426

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 187.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 375

Rack travel in mm : 6.60
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 23.0
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 187.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 116.0
tolerance degree : ± 6.0

RATED SPEED

H25

rack travel mm : 11.70
Rated speed rpm : 1265
Tolerance 1/min : ± 15

rack travel mm : 4.00
Rated speed rpm : 1385
Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 68.0
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 375
rack travel mm : 6.60
Tolerance mm : ± 0.20

Rated speed rpm : 275

CRT mm min. : > 7.90

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.85
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 11.70
Tolerance mm : ± 0.20

Rated speed rpm : 1200
rack travel mm : 12.80
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.90
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 520
rack travel mm : 11.70
Tolerance mm : \pm 0.20

Pressure hPa : 255
rack travel mm : 9.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 169.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 91.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1265
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.00
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 23.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113
Combination No. : 0 402 736 841
Injection pump
Pump designation : PES6P120A120RS7275
EP type number : 0 412 726 886

Governor
Governor design. : RQV400...1250PA964
: -19K
Governor no. : 0 421 815 342

Cust. part No. : 3921920

Customer-spec. information

Customer : CDC
Motor : 6BTA-A
Power KW : 130.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 160.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0
Rated speed rpm	: 400

Rack travel in mm	: 6.10
Tolerance mm	: ± 0.20
Del. quantity cm ³ /1000 strokes	: 17.0
cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 5.0
Spreed cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure hPa	: 1200
Del. quantity cm ³ /1000 strokes	: 160.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

CONTROL LEVER

control lever position degree	: 117.0
tolerance degree	: ± 6.0

RATED SPEED

H28

rack travel mm	: 12.40
Rated speed rpm	: 1315
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1565
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1675

LOW IDLE

control lever position degree	: 71.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 400
rack travel mm	: 6.10
Tolerance mm	: ± 0.20

Rated speed rpm	: 300
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CRT mm min.	: > 7.40
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Rated speed rpm	: 422
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TORQUE CONTROL

Rated speed rpm	: 1250
rack travel mm	: 13.45
Tolerance mm	: ± 0.05

Rated speed rpm	: 800
rack travel mm	: 11.80
Tolerance mm	: ± 0.10

Rated speed rpm	: 500
rack travel mm	: 11.50
Tolerance mm	: ± 0.20

Rated speed rpm	: 900
rack travel mm	: 12.10
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 430
rack travel mm : 13.00
Tolerance mm : \pm 0.20

Pressure hPa : 260
rack travel mm : 11.35
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 280

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 138.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 112.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1315
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 17.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 842

Injection pump
Pump designation : PES6P120A120RS7281
EP type number : 0 412 726 890

Governor
Governor design. : RQV400...1250PA1060
: -1K
Governor no. : 0 421 815 344

Cust. part No. : 3925085

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity	
cm3/1000 strokes	: 153.5
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0
Rated speed rpm	: 420

Rack travel in mm	: 6.00
Tolerance mm	: + 0.20
Del. quantity	
cm3/1000 strokes	: 15.5
cm3/1000 strokes	: + 3.0
Check tolerance	
cm3/1000S.	: + 5.0
Spreed	
cm3/1000 strokes	: 4.0
Check tolerance	
cm3/1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm3/1000 strokes	: 153.5
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

CONTROL LEVER

control lever	
position degree	: 120.0
tolerance degree	: + 6.0

RATED SPEED

J03

rack travel mm	: 12.30
Rated speed rpm	: 1325
Tolerance 1/min	: + 15
rack travel mm	: 4.00
Rated speed rpm	: 1480
Tolerance 1/min	: + 5
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1550

LOW IDLE

control lever	
position degree	: 73.0
tolerance degree	: + 6.0

Testing:

Rated speed rpm	: 420
rack travel mm	: 6.00
Tolerance mm	: + 0.20

Rated speed rpm	: 300
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CRT mm min.	: > 7.70
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 1250
rack travel mm	: 13.35
Tolerance mm	: + 0.05

Rated speed rpm	: 800
rack travel mm	: 12.00
Tolerance mm	: + 0.20

Rated speed rpm	: 500
rack travel mm	: 11.60
Tolerance mm	: + 0.20

Rated speed rpm	: 900
rack travel mm	: 12.40
Tolerance mm	: + 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 350
rack travel mm : 12.70
Tolerance mm : \pm 0.30

Pressure hPa : 265
rack travel mm : 11.80
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 280

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 133.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 106.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 420
Del. quantity
cm³/1000 strokes : 15.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113
Combination No. : 0 402 736 845
Injection pump
Pump designation : PES6P120A120RS7286
EP type number : 0 412 726 894

Governor
Governor design. : RQV350...1100PA964
: -20K
Governor no. : 0 421 815 352

Cust. part No. : 3922425

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.25
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 243.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 375

Rack travel in mm	: 6.60
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 24.0
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 243.5
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 119.0
tolerance degree	: ± 6.0

RATED SPEED

J06

rack travel mm	: 13.60
Rated speed rpm	: 1255
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1400
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1500

LOW IDLE

control lever	
position degree	: 72.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 375
rack travel mm	: 6.60
Tolerance mm	: ± 0.20

Rated speed rpm	: 275
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CRT mm min.	: > 7.80
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 15.25
Tolerance mm	: ± 0.05

Rated speed rpm	: 650
rack travel mm	: 13.40
Tolerance mm	: ± 0.20

Rated speed rpm	: 1200
rack travel mm	: 14.70
Tolerance mm	: ± 0.10

Rated speed rpm	: 750
rack travel mm	: 13.70
Tolerance mm	: ± 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.20
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 715
rack travel mm : 13.50
Tolerance mm : ± 0.20

Pressure hPa : 335
rack travel mm : 10.60
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 211.5
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 1255
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 24.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 851

Injection pump
Pump designation : PES6P120A120RS7332
EP type number : 0 412 726 909

Governor
Governor design. : RQV350...1000PA964
: -24K
Governor no. : 0 421 815 411

Cust. part No. : 3927924

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 15.15

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 235.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 375

Del. quantity
cm³/1000 strokes : 27.0
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1230

Rack travel in mm : 13.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 235.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : \pm 6.0

RATED SPEED

rack travel mm : 13.50
Rated speed rpm : 1155
Tolerance 1/min : \pm 15

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : \pm 5

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 6.0

Testing:

Rated speed rpm : 275

CRT mm min. : $>$ 8.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 15.15
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 13.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1100
rack travel mm : 14.60
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 9.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1000

Pressure hPa : 825
rack travel mm : 13.80
Tolerance mm : \pm 0.20

Pressure hPa : 370
rack travel mm : 11.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 210.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 99.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1155

Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 27.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 852

Injection pump
Pump designation : PES6P120A120RS7332
EP type number : 0 412 726 909

Governor
Governor design. : RQV350...900PA964
: -25K
Governor no. : 0 421 815 418

Cust. part No. : 3927923

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 15.25
Tolerance mm : ± 0.05

Del. quantity cm3/1000 strokes	: 239.0
cm3/1000 strokes	: ± 1.0
Check tolerance cm3/1000S.	: ± 4.0
Spreed cm3/1000 strokes	: 5.0
Check tolerance cm3/1000S.	: 9.0
Rated speed rpm	: 375

Rack travel in mm	: 7.00
Tolerance mm	: ± 0.10
Del. quantity cm3/1000 strokes	: 27.0
cm3/1000 strokes	: ± 3.0
Check tolerance cm3/1000S.	: ± 5.0
Spreed cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 900
Aneroid pressure hPa	: 1200
Del. quantity cm3/1000 strokes	: 239.0
cm3/1000 strokes	: ± 1.0
Check tolerance cm3/1000S.	: ± 4.0
Spreed cm3/1000 strokes	: 5.0
Check tolerance cm3/1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 119.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 13.90
Rated speed rpm	: 1075
Tolerance 1/min	: ± 15

rack travel mm	: 4.00
Rated speed rpm	: 1230
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1400

LOW IDLE

control lever position degree	: 70.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 375
rack travel mm	: 7.00
Tolerance mm	: ± 0.10

Rated speed rpm	: 275
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CRT mm min.	: > 8.10
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Rated speed rpm	: 425
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TORQUE CONTROL

Rated speed rpm	: 900
rack travel mm	: 15.25
Tolerance mm	: ± 0.05

Rated speed rpm	: 650
rack travel mm	: 14.35
Tolerance mm	: ± 0.20

Rated speed rpm	: 1000
rack travel mm	: 15.00
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	: 900
Pressure hPa	: 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 9.70
Tolerance mm : \pm 0.20

Rated speed rpm : 900

Pressure hPa : 825
rack travel mm : 13.80
Tolerance mm : \pm 0.20

Pressure hPa : 370
rack travel mm : 11.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 226.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 99.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 3.0

BREAKAWAY

Rack travel in mm : 13.90
Rated speed rpm : 1075
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.40
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 27.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 873

Injection pump
Pump designation : PES6P120A120RS7265
EP type number : 0 412 726 924

Governor
Governor design. : RQV350...1100PA1178K
Governor no. : 0 421 815 444

Cust. part No. : 3928152

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 167.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 199.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 6.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0

Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 2.11
Tolerance mm : ± 0.20

Rated speed rpm : 1159
guide sleeve
travel mm : 7.79
Tolerance mm : ± 0.15

Rated speed rpm : 726
guide sleeve
travel mm : 4.80
Tolerance mm : ± 0.20

Rated speed rpm : 420
guide sleeve
travel mm : 3.10
Tolerance mm : ± 0.25

Rated speed rpm : 1640
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 199.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 115.0
tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 11.90
Rated speed rpm : 1265
Tolerance 1/min : ± 15

rack travel mm : 4.00
Rated speed rpm : 1385
Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.40
Tolerance mm : ± 0.20

Rated speed rpm : 275

CRT mm min. : > 7.90

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 12.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1200
rack travel mm : 13.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 520
rack travel mm : 11.80
Tolerance mm : \pm 0.20

Pressure hPa : 255
rack travel mm : 9.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650

Del. quantity
cm³/1000 strokes : 188.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 88.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1265
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 215.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 875

Injection pump
Pump designation : PES6P120A120RS7352
EP type number : 0 412 726 923

Governor
Governor design. : RQV350...1000PA1185K
Governor no. : 0 421 815 446

Cust. part No. : 3928169

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 205.1

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 15.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 235.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 375

Rack travel in mm : 6.80
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 27.0

cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000s. : ± 5.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 235.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000s. : ± 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 118.0

tolerance degree : ± 6.0

RATED SPEED

rack travel mm : 13.50
Rated speed rpm : 1155
Tolerance 1/min : ± 15

rack travel mm : 8.00
Rated speed rpm : 1245
Tolerance 1/min : ± 5

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 6.0

Testing:

Rated speed rpm : 375
rack travel mm : 6.80
Tolerance mm : ± 0.10

Rated speed rpm : 275

CRT mm min. : > 8.20

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 15.15
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 13.70
Tolerance mm : ± 0.20

Rated speed rpm : 1100
rack travel mm : 14.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 9.90
Tolerance mm : \pm 0.20

Rated speed rpm : 1000

Pressure hPa : 825
rack travel mm : 14.10
Tolerance mm : \pm 0.20

Pressure hPa : 370
rack travel mm : 11.45
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 210.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 103.5
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 1155
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 27.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113
Combination No. : 0 402 736 876
Injection pump
Pump designation : PES6P120A120RS7353
EP type number : 0 412 726 924
Governor
Governor design. : RQV350...1100PA1186K
Governor no. : 0 421 815 447

Cust. part No. : 3928670

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2 417 413 093
Inlet press. bar : 2.0
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1 688 901 103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 015
Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0
Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 211.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 6.80
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 23.5

cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 211.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 115.0

tolerance degree : \pm 6.0

RATED SPEED

rack travel mm : 12.60
Rated speed rpm : 1220
Tolerance 1/min : \pm 15

rack travel mm : 4.00
Rated speed rpm : 1360
Tolerance 1/min : \pm 5

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1385

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 6.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.80
Tolerance mm : \pm 0.20

Rated speed rpm : 275

CRT mm min. : $>$ 7.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 12.20
Tolerance mm : \pm 0.20

Rated speed rpm : 1150
rack travel mm : 13.70
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.90
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 650
rack travel mm : 12.70
Tolerance mm : \pm 0.20

Pressure hPa : 310
rack travel mm : 10.15
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 172.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 83.5
cm³/1000 strokes : \pm 0.1
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1220
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 185.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 23.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 877

Injection pump
Pump designation : PES6P120A120RS7353
EP type number : 0 412 726 924

Governor
Governor design. : RQV350...1100PA1187K
Governor no. : 0 421 815 448

Cust. part No. : 3928672

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 167.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 201.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 6.40
Tolerance mm : \pm 0.20

Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 201.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 112.0
tolerance degree : \pm 6.0

RATED SPEED

rack travel mm : 12.00
Rated speed rpm : 1205
Tolerance 1/min : \pm 15

rack travel mm : 4.00
Rated speed rpm : 1340
Tolerance 1/min : \pm 5

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 70.0
tolerance degree : \pm 6.0

Testing:

Rated speed rpm : 350
rack travel mm : 6.40
Tolerance mm : \pm 0.20

Rated speed rpm : 275

CRT mm min. : $>$ 7.90

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 12.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1150
rack travel mm : 13.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 13.25
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 8.70
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 520
rack travel mm : 11.80
Tolerance mm : \pm 0.20

Pressure hPa : 255
rack travel mm : 9.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 290

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 190.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 91.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1205
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.10
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 895

Injection pump
Pump designation : PES6P120A120RS7353
EP type number : 0 412 726 924

Governor
Governor design. : RQV350...1100PA1176
: -1K
Governor no. : 0 421 815 496

Cust. part No. : 3930611

Customer-spec. information
Customer : CDC
Motor : 6CTA-A
Power KW : 186.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 5.50
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.95
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 211.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0
Rated speed rpm	: 375

Rack travel in mm	: 6.70
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 23.5
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve	
travel mm	: 2.28
Tolerance mm	: ± 0.25
Rated speed rpm	: 1282
guide sleeve	
travel mm	: 9.01
Tolerance mm	: ± 0.25
Rated speed rpm	: 452
guide sleeve	
travel mm	: 3.50
Tolerance mm	: ± 0.25
Rated speed rpm	: 402
guide sleeve	
travel mm	: 2.91
Tolerance mm	: ± 0.25
Rated speed rpm	: 1640
guide sleeve	
travel mm	: 13.50

Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 211.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 118.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 12.40
Rated speed rpm	: 1280
Tolerance 1/min	: ± 15
rack travel mm	: 8.00
Rated speed rpm	: 1345
Tolerance 1/min	: ± 5
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1460

LOW IDLE

control lever	
position degree	: 70.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 375
rack travel mm	: 6.70
Tolerance mm	: ± 0.20
Rated speed rpm	: 275
CRT mm min.	: > 8.20
Rated speed rpm	: 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.95
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 11.95
Tolerance mm : \pm 0.20

Rated speed rpm : 1200
rack travel mm : 13.60
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 12.30
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.30
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 650
rack travel mm : 13.00
Tolerance mm : \pm 0.20

Pressure hPa : 310
rack travel mm : 10.70
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 290

Check
speed 1/min : > 80
Check
speed 1/min : < 300

FUEL DELIVERY CHARACTERISTICS

K01

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 173.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 92.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.40
Rated speed rpm : 1280
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.80
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 185.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 23.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 15.05.96

Test oil : ISO 4113

Combination No. : 0 402 736 898

Injection pump

Pump designation : PES6P120A120RS7351

EP type number : 0 412 726 922

Governor

Governer design. : RQV350...1100PA1173

: -2K

Governer no. : 0 421 815 501

Cust. part No. : 3931252

Customer-spec. information

Customer : CDC

Motor : 6CTA-A

Power KW : 244.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Tolerance bar : ± 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : ± 1.0

Prestroke mm : 4.00

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance : ± 0.50

Check

tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.75

Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 250.5

cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 375

Rack travel in mm : 6.90
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 24.5
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 5.0
Spread
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 2.11
Tolerance mm : + 0.20

Rated speed rpm : 1159
guide sleeve
travel mm : 7.79
Tolerance mm : + 0.15

Rated speed rpm : 726
guide sleeve
travel mm : 4.80
Tolerance mm : + 0.25

Rated speed rpm : 420
guide sleeve
travel mm : 3.10
Tolerance mm : + 0.25

Rated speed rpm : 1640

guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 250.5
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 119.0
tolerance degree : + 6.0

RATED SPEED

rack travel mm : 14.20
Rated speed rpm : 1250
Tolerance 1/min : + 15

rack travel mm : 7.50
Rated speed rpm : 1355
Tolerance 1/min : + 5

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 6.0

Testing:

Rated speed rpm : 375
rack travel mm : 6.90
Tolerance mm : + 0.20

Rated speed rpm : 250

CRT mm min. : > 7.50

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 15.75
Tolerance mm : \pm 0.05

Rated speed rpm : 650
rack travel mm : 14.50
Tolerance mm : \pm 0.20

Rated speed rpm : 1200
rack travel mm : 15.30
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 14.70
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100
rack travel mm : 9.50
Tolerance mm : \pm 0.20

Rated speed rpm : 1100

Pressure hPa : 765
rack travel mm : 14.10
Tolerance mm : \pm 0.20

Pressure hPa : 330
rack travel mm : 11.10
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 290

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 300

K05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 236.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 95.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.20
Rated speed rpm : 1250
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.90
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 191.5
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 375
Del. quantity
cm³/1000 strokes : 24.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 905

Injection pump
Pump designation : PES6P120A120RS7416
EP type number : 0 412 726 959

Governor
Governor design. : RQV400...1250PA1060
: -3K
Governor no. : 0 421 815 513

Cust. part No. : 3928145

Customer-spec. information

Customer : CDC
Motor : 68TA-A
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 153.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 420

Rack travel in mm : 6.00
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 15.5

cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 1.44
Tolerance mm : ± 0.20

Rated speed rpm : 1329
guide sleeve
travel mm : 7.83
Tolerance mm : ± 0.15

Rated speed rpm : 939
guide sleeve
travel mm : 5.18
Tolerance mm : ± 0.25

Rated speed rpm : 640
guide sleeve
travel mm : 3.56
Tolerance mm : ± 0.25

Rated speed rpm : 1690
guide sleeve
travel mm : 11.50

K08

Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 153.5

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 117.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.30
Rated speed rpm : 1325
Tolerance 1/min : ± 15

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 420
rack travel mm : 6.00
Tolerance mm : ± 0.20

Rated speed rpm : 400

CRT mm min. : > 5.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.35
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 12.00
Tolerance mm : \pm 0.20

Rated speed rpm : 500
rack travel mm : 11.60
Tolerance mm : \pm 0.20

Rated speed rpm : 900
rack travel mm : 12.40
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 350
rack travel mm : 12.70
Tolerance mm : \pm 0.30

Pressure hPa : 265
rack travel mm : 11.80
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 280

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 133.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 106.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 420
Del. quantity
cm³/1000 strokes : 15.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 906

Injection pump
Pump designation : PES6P120A120RS7416
EP type number : 0 412 726 959

Governor
Governor design. : RQV400...1250PA1060
: -4K
Governor no. : 0 421 815 514

Cust. part No. : 3928146

Customer-spec. information
Customer : CDC
Motor : 6BTA-A
Power KW : 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 6.25
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.65

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 160.5

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 420

Rack travel in mm : 6.00

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 15.0

cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400
guide sleeve
travel mm : 1.44
Tolerance mm : \pm 0.20

Rated speed rpm : 1329
guide sleeve
travel mm : 7.83
Tolerance mm : \pm 0.15

Rated speed rpm : 939
guide sleeve
travel mm : 5.18
Tolerance mm : \pm 0.25

Rated speed rpm : 640
guide sleeve
travel mm : 3.56
Tolerance mm : \pm 0.25

Rated speed rpm : 1690

guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1390

Rack travel in mm : 12.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 160.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 117.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.60
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : \pm 5

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 420
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 300
CRT mm min. : $>$ 5.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.65
Tolerance mm : \pm 0.05

Rated speed rpm : 800
rack travel mm : 11.85
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 11.60
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : 10.60
Tolerance mm : \pm 0.20

Rated speed rpm : 1250

Pressure hPa : 375
rack travel mm : 12.70
Tolerance mm : \pm 0.30

Pressure hPa : 260
rack travel mm : 11.60
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 280

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 131.5
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 1250
Del. quantity
cm³/1000 strokes : 111.5
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.60
Rated speed rpm : 1325
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.10
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 420
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.0

Speed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.05.96
Test oil : ISO 4113

Combination No. : 0 402 736 910

Injection pump
Pump designation : PES6P120A72ORS7351
EP type number : 0 412 726 922

Governor
Governor design. : RQV450...1100PA1291K
Governor no. : 0 421 815 526

Cust. part No. : 3931948

Customer-spec. information

Customer : CDC
Motor : 6CTA-A
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.75
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 215.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0
Rated speed rpm	: 450
Rack travel in mm	: 6.80
Tolerance mm	: ± 0.20
Del. quantity cm ³ /1000 strokes	: 27.0
cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 5.0
Spreed cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 450
guide sleeve travel mm	: 1.23
Tolerance mm	: ± 0.20
Rated speed rpm	: 1183
guide sleeve travel mm	: 7.71
Tolerance mm	: ± 0.15
Rated speed rpm	: 870
guide sleeve travel mm	: 4.59
Tolerance mm	: ± 0.25
Rated speed rpm	: 1570
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
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Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 215.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 116.0
tolerance degree	: ± 6.0

RATED SPEED

rack travel mm	: 13.70
Rated speed rpm	: 1165
Tolerance 1/min	: ± 15

rack travel mm	: 7.80
Rated speed rpm	: 1250
Tolerance 1/min	: ± 5

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1375

LOW IDLE

control lever position degree	: 76.0
tolerance degree	: ± 6.0

Testing:

Rated speed rpm	: 450
rack travel mm	: 6.80
Tolerance mm	: ± 0.20

Rated speed rpm	: 325
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CRT mm min.	: > 8.50
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Rated speed rpm	: 525
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TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 14.75

Tolerance mm : \pm 0.05
Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 12.70
Tolerance mm : \pm 0.20

Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 207.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BREAKAWAY

Rack travel in mm : 13.70
Rated speed rpm : 1165
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.80
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 180.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000s. : \pm 25.0

LOW IDLE

Rated speed rpm : 450
Del. quantity
cm³/1000 strokes : 27.0
cm³/1000 strokes : \pm 3.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.06.96
Test oil : ISO 4113

Combination No. : 0 400 075 923

Injection pump
Pump designation : PES5M55C32ORS168
EP type number : 0 410 055 978

Governor
Governor design. : RSF385/2000M55-8
Governor no. : 0 420 021 269

Cust. part No. :

Customer-spec. information
Customer : DPICO
Motor : OM602-2.9l (Dom)
Power KW : 69.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde
assembly : 1 688 901 111

Opening pressure
bar : 148.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 15.50
Tolerance : ± 0.20
Check
tolerance *NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 38.5

cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Speed
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

Rated speed rpm : 385
Rack travel in mm : 5.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : \pm 0.5
Spreed
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25
Tolerance mm : \pm 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Ref. pressure
ALDA / ADA hPa : -
Del. quantity
cm³/1000 strokes : 38.5
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 1.5
Spreed
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0

Rated speed rpm : 2250
rack travel mm : 7.70
Tolerance mm : \pm 0.25

Rated speed rpm : 2550
rack travel mm : 0.50
Tolerance mm : \pm 0.50

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : 1.45

LOW IDLE

control lever
position degree : 14.0
tolerance degree : \pm 2.0

Setting point w/out bumper spring
Rated speed rpm : 385
rack travel mm : 5.60

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 3.80
Tolerance mm : \pm 0.10

Load pick-up

Rated speed rpm : 250
rack travel mm : 12.20

Rated speed rpm : 1000

CRT mm max. : 1.45

rack travel mm : 5.60
Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.15
Tolerance mm : \pm 0.05

Rated speed rpm : 1800
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 2000
rack travel mm : 11.80
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 1800
Del. quantity
cm³/1000 strokes : 40.8
cm³/1000 strokes : \pm 0.8
Check tolerance
cm³/1000S. : \pm 1.8

Spreed
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 2000
Spreed
Del. quantity
cm3/1000 strokes : 41.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 2.0
Spreed
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0

HIGH IDLE

Ref. pressure
ALDA / ADA hPa : -
Rated speed rpm : 2250
rack travel mm : 7.70
Tolerance mm : + 0.25
Del. quantity
cm3/1000 strokes : 25.5
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000S. : + 3.0
Spreed
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 21.60
Tolerance mm : + 1.50
Del. quantity
cm3/1000 strokes : 59.0
cm3/1000 strokes : + 4.0
Check tolerance
cm3/1000S. : + 5.0
Spreed
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 6.0

LOW IDLE

Rated speed rpm : 385

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Del. quantity
cm3/1000 strokes : 10.3
Check tolerance
cm3/1000S. : + 2.3
Spreed
Check tolerance
cm3/1000S. : 1.5

control lever
position degree : > 47.00

control lever
position degree : < 44.50

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever
position degree : 14.0
tolerance degree : + 2.0

Rated speed rpm : 400

Rack travel in mm : 8.50
Tolerance mm : + 0.80
Del. quantity
cm3/1000 strokes : 22.0
cm3/1000 strokes : + 3.5
Check tolerance
cm3/1000S. : + 4.5
Vacuum hPa : 400.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385
Vacuum hPa : -450.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.06.96
Test oil : ISO 4113

Combination No. : 0 402 046 866

Injection pump
Pump designation : PES6P120A720RS3346
EP type number : 0 412 026 778

Governor
Governor design. : RQ300/1025PA1213
Governor no. : 0 421 801 783

Cust. part No. :

Customer-spec. information

Customer : IVECO-FIAT
Motor : 8360.46.4649

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 034

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 175.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.50
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 550

Rack travel in mm : 14.30
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1025
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 175.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

rack travel mm : 10.90
Rated speed rpm : 1078
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50

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Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 70.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.50
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 11.90
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 11.95
Tolerance mm : + 0.10

Rated speed rpm : 1025
rack travel mm : 12.35
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 12.40
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.90
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

rack travel mm : 9.60
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 10.00
Tolerance mm : \pm 0.20

Pressure hPa : 500
rack travel mm : 11.30
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 168.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 102.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1078
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 90.0
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.06.94
Test oil : ISO 4113

Combination No. : 0 402 646 865

Injection pump
Pump designation : PE6P120A720RS7020
EP type number : 0 412 626 828

Governor
Governor design. : RQV200...1000PA539
: -8
Governor no. : 0 421 813 635

Cust. part No. : 1121370

Customer-spec. information
Customer : SCANIA
Motor : DS11 34

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.95
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 209.0
<hr/>	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
cm ³ /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 225
<hr/>	
Rack travel in mm	: 4.70
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 20.0
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 3.0
Check tolerance	
cm ³ /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 1050
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 209.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 59.0
tolerance degree	: ± 4.0

control lever	
position degree	: 117.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 11.90
Rated speed rpm	: 1045
Tolerance 1/min	: ± 5

rack travel mm	: 4.00
Rated speed rpm	: 1150
Tolerance 1/min	: ± 15

rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever	
position degree	: 65.0
tolerance degree	: ± 4.0

control lever	
position degree	: 9.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 225
rack travel mm	: 4.70
Tolerance mm	: ± 0.10

Rated speed rpm	: 100
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CRT mm min.	: > 6.10
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Rated speed rpm	: 275
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TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.95
Tolerance mm	: ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.95
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 11.20
Tolerance mm : \pm 0.15

Pressure hPa : 520
rack travel mm : 12.35
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 202.0
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

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STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 300.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 225
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.06.94
Test oil : ISO 4113

Combination No. : 0 402 646 878

Injection pump
Pump designation : PE6P120A72ORS7020
EP type number : 0 412 626 828

Governor
Governor design. : RQV200...1000PA539
: -11
Governor no. : 0 421 813 813

Cust. part No. : 1121371

Customer-spec. information
Customer : SCANIA
Motor : DS11 34

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration
damper
(RoBo diaphragm) : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.95
Tolerance mm : ± 0.05

Del. quantity	
cm ³ /1000 strokes	: 209.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000s.	: ± 4.0
Speed	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000s.	: 9.0

Rack travel in mm	: 4.70
Tolerance mm	: ± 0.10

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 1050
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 209.0
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000s.	: ± 4.0
Speed	
cm ³ /1000 strokes	: 6.0
Check tolerance	
cm ³ /1000s.	: 9.0

CONTROL LEVER

control lever	
position degree	: 59.0
tolerance degree	: ± 4.0
control lever	
position degree	: 117.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 11.90
Rated speed rpm	: 1045
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1150
Tolerance 1/min	: ± 15
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever	
position degree	: 65.0
tolerance degree	: ± 4.0
control lever	
position degree	: 9.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 225
rack travel mm	: 4.70
Tolerance mm	: ± 0.10
Rated speed rpm	: 100
CRT mm min.	: > 6.10
Rated speed rpm	: 275

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.95
Tolerance mm	: ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 500
Pressure hPa	: 900
rack travel mm	: 12.95
Tolerance mm	: ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 11.20
Tolerance mm : \pm 0.15

Pressure hPa : 520
rack travel mm : 12.35
Tolerance mm : \pm 0.05

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 202.0
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 300.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.06.96
Test oil : ISO 4113

Combination No. : 0 403 244 045

Injection pump
Pump designation : PES4MW100/720RS1524
EP type number : 0 413 204 021

Governor
Governor design. : RQV300...1300MW132
: -12
Governor no. : 0 420 083 329

Cust. part No. : 0240740902

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

L02

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 89.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 4.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : \pm 0.25

Rated speed rpm : 1353
guide sleeve
travel mm : 7.14
Tolerance mm : \pm 0.25

Rated speed rpm : 1130
guide sleeve
travel mm : 5.40
Tolerance mm : \pm 0.25

Rated speed rpm : 610
guide sleeve
travel mm : 2.96
Tolerance mm : \pm 0.25

Rated speed rpm : 660
guide sleeve
travel mm : 3.31
Tolerance mm : \pm 0.25

Rated speed rpm : 780
guide sleeve
travel mm : 3.72
Tolerance mm : \pm 0.25

Rated speed rpm : 1679
guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350

Rack travel in mm : 10.00
Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 89.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 111.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.00
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1445
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 4.40
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 5.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.00
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 11.00
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.00
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 0.90
Tolerance mm : + 0.10

Pressure hPa : 150
rack travel mm : 0.30
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 200

Check
speed 1/min : > 80
Check
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm3/1000 strokes : 81.0
cm3/1000 strokes : + 1.5
Check tolerance
cm3/1000S. : + 4.0
Spreed
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 56.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1345
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 120.0
cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000S. : + 8.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 12.0
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000S. : + 4.5
Spreed
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.06.96
Test oil : ISO 4113
Combination No. : 0 403 244 048
Injection pump
Pump designation : PES4MW100/720RS1524
EP type number : 0 413 204 021
Governor
Governor design. : RQV300...1300MW132
: -12
Governor no. : 0 420 083 329
Cust. part No. : 0240741002

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 992 198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 089
Outside diameter : 8.0

L06

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 11.00
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 89.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 300

Rack travel in mm : 4.40
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 0.91
Tolerance mm : \pm 0.20

Rated speed rpm : 1353
guide sleeve
travel mm : 7.14
Tolerance mm : \pm 0.15

Rated speed rpm : 1130
guide sleeve
travel mm : 5.40
Tolerance mm : \pm 0.25

Rated speed rpm : 610
guide sleeve
travel mm : 2.96
Tolerance mm : \pm 0.25

Rated speed rpm : 660
guide sleeve
travel mm : 3.31
Tolerance mm : \pm 0.25

Rated speed rpm : 780
guide sleeve
travel mm : 3.72
Tolerance mm : \pm 0.25

Rated speed rpm : 1679
guide sleeve
travel mm : 12.00
Tolerance mm : \pm 0.25

Rated speed rpm : 1780
guide sleeve
travel mm : 13.50

L07

Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1350

Rack travel in mm : 10.00
Tolerance mm : \pm 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700
Del. quantity
cm³/1000 strokes : 89.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 111.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.00
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1445
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1550

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300

rack travel mm : 4.40
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 5.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 11.00
Tolerance mm : \pm 0.05

Rated speed rpm : 750
rack travel mm : 11.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 0.90
Tolerance mm : \pm 0.10

Pressure hPa : 150
rack travel mm : 0.30
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 200

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 81.0
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 56.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 120.0
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 12.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
cm³/1000 strokes : 2.0
Check tolerance
cm³/1000S. : 4.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.05.96
Test oil : ISO 4113

Combination No. : 0 402 646 668

Injection pump
Pump designation : PE6P120A320RS7412
EP type number : 0 412 626 953

Governor
Governor design. : RQV275...1000PA1278
: -1K
Governor no. : 0 421 815 510

Cust. part No. : 1310220/1

Customer spec. information
Customer : DAF
Motor : XF 280 M
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 145
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.75

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 280.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 4.00
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 17.0
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 2.04
Tolerance mm : \pm 0.20

Rated speed rpm : 1062
guide sleeve
travel mm : 10.04
Tolerance mm : \pm 0.15

Rated speed rpm : 697
guide sleeve
travel mm : 6.48
Tolerance mm : \pm 0.25

Rated speed rpm : 400
guide sleeve
travel mm : 3.92
Tolerance mm : \pm 0.25

Rated speed rpm : 1310

guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1171

Rack travel in mm : 10.70
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 280.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 10.70
Rated speed rpm : 1050
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1140
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 71.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.00
Tolerance mm : \pm 0.10

Rated speed rpm : 175

CRT mm min. : > 6.50

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 11.75
Tolerance mm : \pm 0.05

Rated speed rpm : 900
rack travel mm : 11.85
Tolerance mm : \pm 0.10

Rated speed rpm : 750
rack travel mm : 12.00
Tolerance mm : \pm 0.10

Rated speed rpm : 700
rack travel mm : 11.70
Tolerance mm : \pm 0.10

Rated speed rpm : 600
rack travel mm : 11.10
Tolerance mm : \pm 0.10

Rated speed rpm : 500
rack travel mm : 10.65
Tolerance mm : \pm 0.10

Rated speed rpm : 1000
rack travel mm : 11.75
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 775
Pressure hPa : 1500
rack travel mm : 11.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 775
rack travel mm : 7.55
Tolerance mm : \pm 0.20

Rated speed rpm : 775

Pressure hPa : 640
rack travel mm : 11.00
Tolerance mm : \pm 0.05

Pressure hPa : 320
rack travel mm : 8.60
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 311.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 181.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1050
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 275
Del. quantity
cm³/1000 strokes : 17.0

cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.05.96
Test oil : ISO 4113

Combination No. : 0 402 648 891

Injection pump
Pump designation : PE8P120A720LS7189
: -10Q

EP type number : 0 412 628 894

Governor
Governor design. : RQV200...950PA736-8
Governor no. : 0 421 813 815

Cust. part No. : 1316120

Customer-spec. information
Customer : SCANIA
Motor : DSC14 08

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Vibration
damper
(RoBo diaphragm) : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance L/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 104

Opening pressure
bar : 251.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 3- 4
: - 5- 6- 8

Phasing : 0-45-90-135-180
: -225-270-315

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 220.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.50
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 16.0

cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.60
Tolerance mm : \pm 0.20

Rated speed rpm : 995
guide sleeve
travel mm : 7.80
Tolerance mm : \pm 0.10

Rated speed rpm : 350
guide sleeve
travel mm : 2.60
Tolerance mm : \pm 0.30

Rated speed rpm : 650
guide sleeve
travel mm : 4.70
Tolerance mm : \pm 0.30

Rated speed rpm : 1115
guide sleeve
travel mm : 9.40
Tolerance mm : \pm 0.20

GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : \pm 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 220.0

cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

CONTROL LEVER

control lever
position degree : 60.0
tolerance degree : \pm 4.0

control lever
position degree : 94.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.30
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1105
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 45.0
tolerance degree : ± 4.0

control lever
position degree : 11.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 5.80

Rated speed rpm : 275

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 12.35
Tolerance mm : ± 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.35
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 320
rack travel mm : 10.50
Tolerance mm : ± 0.20

Pressure hPa : 525
rack travel mm : 11.75
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 206.0
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000s. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 144.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000s. : ± 24.0

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 16.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Speed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.06.96
Test oil : ISO 4113

Combination No. : 0 402 676 833

Injection pump
Pump designation : PE6P120A32ORS7426
EP type number : 0 412 626 958

Governor
Governor design. : RSV300...1100P1A650
Governor no. : 0 421 833 567

Cust. part No. : 3826502 P02 v.05/96

Customer-spec. information

Customer : VM
Motor : TWD 1031 E
Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 105

Opening pressure
bar : 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 292.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 5.00

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 22.0

cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : \pm 0.20

governor spring
pre-tension

click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 292.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

CONTROL LEVER

control lever
position degree : 63.0
tolerance degree : \pm 4.0

control lever
position degree : 113.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 11.00
Rated speed rpm : 1080
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1150
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1260

LOW IDLE

control lever
position degree : 81.0
tolerance degree : \pm 4.0

control lever
position degree : 31.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 300
rack travel mm : 4.50

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.00
Tolerance mm : \pm 0.05

Rated speed rpm : 700
rack travel mm : 12.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.70
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 1030
rack travel mm : 4.00
Tolerance mm : \pm 0.20

Pressure hPa : 270
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 321.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 9.0
Check tolerance
cm³/1000S. : 13.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 185.0

L20

cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1080
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 22.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.05.96
Test oil : ISO 4113

Combination No. : 0 402 896 014

Injection pump
Pump designation : PE6P120A720RS8029
EP type number : 0 412 826 028

Governor
Governor design. : RE30
Governor no. : 0 421 890 021

Cust. part No. : 1361126

Customer-spec. information
Customer : SCANIA
Motor : DSC1124

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1 680 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Pump-specific values
in Section (B)
must be observed!

(A) INJECTION PUMP SETTINGS
No basic setting.
Setting of constant delivery
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

Vibration
damper
(RoBo diaphragm) : 3.1

(B) POSITIONER TESTING
Warm-up time: 3 minutes at
n=600 min⁻¹, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0

Setting point
(P, R and H pump)

Uact V : 3.100
CRT mm : 13.00
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(P, R and H pump)

Uact V : 1.700
CRT mm : 6.15
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Setting point
(M pump)

Uact V : 3.100
CRT mm : 12.50
Tolerance mm : +/- 0.05
Check
tolerance mm : +/- 0.10

Check value
(M pump)

Uact V : 1.700
CRT mm : 5.50
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.30

Stop position

Uact V : Value with
deenergised adjusting magnet
and control rod in
stop position.

CRT mm : 0.75
Tolerance mm : +/- 0.25
Check
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not
H and M pumps)

Test with control rod
in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600
Difference
Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 700
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 340.0
cm³/1000 strokes : +/- 1.0
Check tolerance
cm³/1000S. : +/- 4.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 900
Uact V : 3.500
Del. quantity
cm³/1000 strokes : 309.0
cm³/1000 strokes : +/- 4.0
Check tolerance
cm³/1000S. : +/- 6.0

TEST POINT L1

Rated speed rpm : 250
Uact V : 1.640
Tolerance Volt : +/- 0.060
Check tolerance
Volt : +/- 0.060
Del. quantity
cm³/1000 strokes : 16.0
cm³/1000 strokes : +/- 3.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 3.000
Del. quantity
cm³/1000 strokes : 245.0
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.96
Test oil : ISO 4113

Combination No. : 0 402 946 023

Injection pump
Pump designation : PES6P120A320RS8038
EP type number : 0 412 926 025

Governor
Governor design. : RQ250/1000PA1265-2
Governor no. : 0 421 801 808

Cust. part No. : 1385102

Customer-spec. information
Customer : SCANIA
Motor : DSC 9.15

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1 688 901 104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.30
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.20

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.40
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 287.0

cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 9.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 14.0

Rated speed rpm : 250

Rack travel in mm : 6.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 25.0

cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.48
Tolerance mm : + 0.20

Rated speed rpm : 1055
guide sleeve
travel mm : 4.82
Tolerance mm : + 0.15

Rated speed rpm : 970
guide sleeve
travel mm : 4.50
Tolerance mm : + 0.10

Rated speed rpm : 358
guide sleeve
travel mm : 3.50
Tolerance mm : + 0.10

Rated speed rpm : 490
guide sleeve
travel mm : 4.50
Tolerance mm : + 0.10

Rated speed rpm : 1129
guide sleeve
travel mm : 5.50
Tolerance mm : + 0.10

Rated speed rpm : 1600
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + 1.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 287.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 9.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 14.0

CONTROL LEVER

control lever
position degree : 38.0
tolerance degree : + 4.0

control lever
position degree : 106.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.40
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 85.0
tolerance degree : + 4.0

control lever
position degree : 23.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.80
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + 20

Rated speed rpm : 150

CRT mm min. : > 10.20

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.40
Tolerance mm : + 0.05

Rated speed rpm : 1000
rack travel mm : 12.40
Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.40
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00

L26

Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 290
rack travel mm : 10.60
Tolerance mm : + 0.15

Pressure hPa : 800
rack travel mm : 11.90
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 170
Rated speed rpm : > 100

Check
speed 1/min : < 190
Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 280.0
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 172.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 6.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1045
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50

Del. quantity
cm³/1000 strokes : 270.0
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 24.0

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 25.0
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.06.96
Test oil : ISO 4113
Combination No. : 0 403 486 110
Injection pump
Pump designation : PES6MW100/321RS1192
: -1
EP type number : 0 413 406 242
Governor
Governor design. : RSV300...1300MWOA802
: -1
Governor no. : 0 420 085 132
Cust. part No. : 3-7493

Customer-spec. information
Customer : MAN
Motor : D0826LE40
Power KW : 199.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 047
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1 688 9J1 101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 008

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.05
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 139.0
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 4.5

Spreed
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 139.0
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

MO1

control lever
position degree : 115.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.00
Rated speed rpm : 1355
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : + 15

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1650

LOW IDLE

control lever
position degree : 82.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : + 0.10

rack travel mm : > 2.00
Rated speed rpm : 430
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.05
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 13.05
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : 13.05
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 152.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 156.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1355
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
cm³/1000 strokes : 3.5

M02

Check tolerance
cm³/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.96
Test oil : ISO 4113
Combination No. : 0 402 648 602
Injection pump
Pump designation : PE8P110A320RS7398
EP type number : 0 412 618 800
Governor
Governor design. : RQV300...900PA1252K
Governor no. : 0 421 815 484

Cust. part No. :

Customer-spec. information
Customer : TATRA
Motor : T3B-928.60
Power KW : 255.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 13.00
Tolerance mm : ± 1.00

Firing order : 1- 8- 5- 4- 7
 : - 2- 3- 6

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 191.0

cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 250

Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 26.0

cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve

travel mm : 1.63

Tolerance mm : ± 0.20

Rated speed rpm : 958

guide sleeve

travel mm : 8.79

Tolerance mm : ± 0.15

Rated speed rpm : 777

guide sleeve

travel mm : 6.70

Tolerance mm : ± 0.25

Rated speed rpm : 520

guide sleeve

travel mm : 3.73

Tolerance mm : ± 0.25

Rated speed rpm : 1260

guide sleeve

travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1115

Rack travel in mm : 13.00

Tolerance mm : ± 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

Aneroid pressure
hPa : 1500

Del. quantity
cm³/1000 strokes : 191.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 65.0
tolerance degree : ± 4.0

control lever
position degree : 119.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.00
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1065
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

control lever
position degree : 16.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
Tolerance mm : ± 0.10

Rated speed rpm : 150
CRT mm min. : > 6.00
Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 14.00
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 13.10
Tolerance mm : \pm 0.10

Rated speed rpm : 300
rack travel mm : 12.60
Tolerance mm : \pm 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 900
Pressure hPa : 1500
rack travel mm : 14.00
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 9.05
Tolerance mm : \pm 0.20

Rated speed rpm : 900

Pressure hPa : 375
rack travel mm : 10.15
Tolerance mm : \pm 0.15

Pressure hPa : 750
rack travel mm : 12.75
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : > 100
Rated speed rpm : < 170

Check
speed 1/min : > 80

Check
speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 198.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 129.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.00
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 255.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 26.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.05.96
Test oil : ISO 4113

Combination No. : 0 402 946 303

Injection pump
Pump designation : PES6P120A320RS8515
EP type number : 0 412 926 211

Governor
Governor design. : RQV250...900PA1223K
Governor no. : 0 421 815 971

Cust. part No. :

Customer-spec. information
Customer : PERKINS
Motor : EAGLE410TX
Power KW : 298.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 3.0
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 110
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 5.10
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.00

Firing order : 1- 4- 2- 6- 3-
: 5

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

Start of delivery blocking

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 14.80

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 289.5

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 2.70

Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 25.0

cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 6.0

Speed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.23
Tolerance mm : \pm 0.20

Rated speed rpm : 958
guide sleeve
travel mm : 8.79
Tolerance mm : \pm 0.15

Rated speed rpm : 676
guide sleeve
travel mm : 5.80
Tolerance mm : \pm 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 3.62
Tolerance mm : \pm 0.25

Rated speed rpm : 1260

guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1105

Rack travel in mm : 17.00
Tolerance mm : \pm 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 850
Aneroid pressure
hPa : 1300

Del. quantity
cm³/1000 strokes : 289.5

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 117.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.80
Rated speed rpm : 945
Tolerance 1/min : \pm 15

rack travel mm : 4.00
Rated speed rpm : 1070
Tolerance 1/min : \pm 5

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 68.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 2.70
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 4.20
Rated speed rpm : 330

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 14.80
Tolerance mm : \pm 0.05

Rated speed rpm : 600
rack travel mm : 14.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 850
Pressure hPa : 1300
rack travel mm : 14.80
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 850
rack travel mm : 8.20
Tolerance mm : \pm 0.20

Rated speed rpm : 850

Pressure hPa : 425
rack travel mm : 10.00
Tolerance mm : \pm 0.05

Pressure hPa : 820
rack travel mm : 12.60
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 230

Check
speed 1/min : $>$ 80

Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 314.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 161.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.80
Rated speed rpm : 945
Tolerance 1/min : \pm 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 225.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 25.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 25.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.05.96
Test oil : ISO 4113

Combination No. : 0 401 876 801

Injection pump
Pump designation : PE6P120A320RS3375
EP type number : 0 411 826 817

Governor
Governor design. : RSV250...900POA646
Governor no. : 0 421 833 562

Cust. part No. : 3826154 P01 v.11/95

Customer-spec. information
Customer : PENTA
Motor : TWD 710P
Power KW : 153.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 240
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance *NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 8.15
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 155.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 4.80
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 23.0
cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000S. : \pm 5.0

Spreed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : \pm 0.20

governor spring
pre-tension
click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 155.0
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 37.0
tolerance degree : \pm 4.0

control lever
position degree : 87.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 7.15
Rated speed rpm : 920
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 955
Tolerance 1/min : \pm 15

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 1050

LOW IDLE

control lever
position degree : 69.0
tolerance degree : \pm 4.0

control lever
position degree : 19.0
tolerance degree : \pm 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
rack travel mm : 4.30

Testing:

Rated speed rpm : 250
rack travel mm : 4.80
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 335
Tolerance 1/min : \pm 30

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 8.15
Tolerance mm : \pm 0.05

BREAKAWAY

Rack travel in mm : 7.15
Rated speed rpm : 920
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 23.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 5.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.05.96
Test oil : ISO 4113
Combination No. : 0 401 878 140
Injection pump
Pump designation : PE8P120A520/5RS427
EP type number : 0 411 828 048
Governor
Governor design. : RSUV300...900POA320
: -1
Governor no. : 0 421 829 107
Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : TBD 234 V8
Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 417 413 025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1 688 901 019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

M14

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0
Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 8- 5- 4- 7
: - 2- 3- 6
Phasing : 0-30-90-120-180
: -210-270-300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Start of delivery mark
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 750
Rack travel in mm : 13.75
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 250.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.60

Tolerance mm : ± 0.10

Del. quantity

cm³/1000 strokes : 23.0

cm³/1000 strokes : ± 3.0

Check tolerance

cm³/1000S. : ± 6.0

Spread

cm³/1000 strokes : 8.0

Check tolerance

cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring

pre-tension

click setting x : 3.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750

Aneroid pressure

hPa : -

Del. quantity

cm³/1000 strokes : 250.0

cm³/1000 strokes : ± 1.0

Check tolerance

cm³/1000S. : ± 4.0

Spread

cm³/1000 strokes : 5.0

Check tolerance

cm³/1000S. : 9.0

CONTROL LEVER

control lever

position degree : 119.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.70

Rated speed rpm : 945

Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 980

Tolerance 1/min : ± 15

rack travel mm : 0.85

Tolerance mm : ± 0.55

Rated speed rpm : 1130

LOW IDLE

control lever

position degree : 76.0

tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 300

rack travel mm : 5.10

Testing:

Rated speed rpm : 300

rack travel mm : 5.60

Tolerance mm : ± 0.10

rack travel mm : 2.00

Rated speed rpm : 350

Tolerance 1/min : ± 30

TORQUE CONTROL

Dimension a mm : 3.90

Rated speed rpm : 750

rack travel mm : 13.75

Tolerance mm : ± 0.05

Rated speed rpm : 900

rack travel mm : 13.75

Tolerance mm : ± 0.10

Rated speed rpm : 450

rack travel mm : 13.75

Tolerance mm : \pm 0.10
Rated speed rpm : 280
rack travel mm : 15.20
Tolerance mm : \pm 0.30

BREAKAWAY

Rack travel in mm : 12.70
Rated speed rpm : 945
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 23.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.05.96
Test oil : ISO 4113

Combination No. : 0 402 076 804

Injection pump
Pump designation : PES6P120A720RS3340
EP type number : 0 412 026 773

Governor
Governor design. : RSV650...1100P8A566
: -2
Governor no. : 0 421 833 559

Cust. part No. :

Customer-spec. information
Customer : NH
Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 103

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery blocking

Check
tolerance °NW : ± 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 10.70
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	140.5
<hr/>	
cm ³ /1000 strokes :	± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	± 6.0
<hr/>	
Spreed	
cm ³ /1000 strokes :	5.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	9.0
<hr/>	
Rated speed rpm :	650
<hr/>	
Rack travel in mm :	5.10
Tolerance mm :	± 0.10
Del. quantity	
cm ³ /1000 strokes :	33.0
cm ³ /1000 strokes :	± 3.0
Check tolerance	
cm ³ /1000S. :	± 6.0
Spreed	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S. :	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.50
Tolerance mm :	± 0.20
<hr/>	
governor spring	
pre-tension	
click setting x :	3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1025
Aneroid pressure	
hPa :	1600
Del. quantity	
cm ³ /1000 strokes :	140.5
cm ³ /1000 strokes :	± 1.0
Check tolerance	
cm ³ /1000S. :	± 6.0
Spreed	
cm ³ /1000 strokes :	5.0

Check tolerance	
cm ³ /1000S. :	9.0

CONTROL LEVER

control lever	
position degree :	93.0
tolerance degree :	± 4.0

RATED SPEED

rack travel mm :	4.00
Rated speed rpm :	1105

ASSEMBLY GOVERNOR SETTING

Rated speed rpm :	1072
rack travel mm :	9.70

Rated speed rpm :	1100
Tolerance 1/min :	± 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	± 0.55
Rated speed rpm :	1350

Rated speed rpm :	1073
rack travel mm :	9.70

Rated speed rpm :	1101
Tolerance 1/min :	± 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	± 0.55

Rated speed rpm :	1074
rack travel mm :	9.70

Rated speed rpm :	1102
Tolerance 1/min :	± 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	± 0.55

Rated speed rpm :	1075
rack travel mm :	9.70

Rated speed rpm :	1103
Tolerance 1/min :	± 5
rack travel mm :	4.00

rack travel mm :	0.85
Tolerance mm :	± 0.55

Rated speed rpm :	1076
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rack travel mm : 9.70
Rated speed rpm : 1104
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55

Rated speed rpm : 1077
rack travel mm : 9.70

Rated speed rpm : 1105
Tolerance 1/min : + 5
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : + 0.55

LOW IDLE

control lever
position degree : 76.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 650
rack travel mm : 4.60

Testing:

Rated speed rpm : 650
rack travel mm : 5.10
Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1025
rack travel mm : 10.70
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 11.45
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 11.50
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1600
rack travel mm : 11.45
Tolerance mm : + 0.15

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.60
Tolerance mm : + 0.15

Rated speed rpm : 500

Pressure hPa : 840
rack travel mm : 10.70
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : > 100

Check
speed 1/min : > 80

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 165.5
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 80.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm³/1000 strokes : 95.0
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 33.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.05.96
Test oil : ISO 4113
Combination No. : 0 400 876 367
Injection pump
Pump designation : PES6A90D410RS2710-1
EP type number : 0 410 896 084

Governor
Governor design. : RSV350...750A0C2240
: -2L
Governor no. : 0 420 232 558

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366
Power KW : 60.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.30
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.20
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 64.5

cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 7.0

Rated speed rpm : 350

Rack travel in mm : 8.20
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 64.5
cm³/1000 strokes : \pm 0.5
Check tolerance
cm³/1000S. : \pm 2.5
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 7.0

CONTROL LEVER

control lever
position degree : 86.0
tolerance degree : \pm 4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750
rack travel mm : 11.20

Rated speed rpm : 784
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 751

M22

rack travel mm : 11.20

Rated speed rpm : 785
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 752
rack travel mm : 11.20

Rated speed rpm : 786
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 753
rack travel mm : 11.20

Rated speed rpm : 787
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 754
rack travel mm : 11.20

Rated speed rpm : 788
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

Rated speed rpm : 755
rack travel mm : 11.20

Rated speed rpm : 789
Tolerance 1/min : \pm 4
rack travel mm : 4.00

rack travel mm : 0.85
Tolerance mm : \pm 0.55
Rated speed rpm : 900

LOW IDLE

control lever
position degree : 74.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 8.20
Tolerance mm : \pm 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : \pm 20

Rated speed rpm : 100

CRT mm min. : $>$ 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 12.20
Tolerance mm : \pm 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 16.70
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 83.0
cm³/1000 strokes : \pm 7.5
Check tolerance
cm³/1000S. : \pm 10.0

LOW IDLE

Rated speed rpm : 350
Del. quantity
cm³/1000 strokes : 9.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.08.82
Test oil : ISO 4113

Combination No. : 0 401 818 797

Injection pump
Pump designation : PE8P130A500/5LS3053
EP type number : 0 411 838 702

Governor
Governor design. :
Governor no. :

Cust. part No. :

Customer-spec. information

Customer : SUEDBREMSE
Motor : TBD-602-V16

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 413 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 443 022

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 061

Outside diameter : 8.0

x inside diameter : 2.0

M24

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 6- 8- 2- 4- 7
: - 3- 5

Phasing : 0-45-90-90-135-180
: -225-315
Tolerance : ± 0.3°
Check
tolerance °NW : ± 0.50

BASIC SETTING

Del. quantity
cm³/1000 strokes : 349.0

cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 5.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Del. quantity
cm³/1000 strokes : 52.0
cm³/1000 strokes : ± 4.0

Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 349.0
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000s. : ± 5.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000s. : 9.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 52.0
cm³/1000 strokes : ± 4.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.10.85
Test oil : ISO 4113
Combination No. : 0 401 846 501
Injection pump
Pump designation : PE6P110A720RS380
EP type number : 0 411 816 126
Governor
Governor design. : RQV250...1000PA434
: -2
Governor no. : 0 421 813 444

Cust. part No. :

Customer-spec. information
Customer : HISPAVinsa
Motor : BSR 36 C

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 191.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.5

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 250

Rack travel in mm : 8.60

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 27.0

cm³/1000 strokes : \pm 3.0

Speed

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250

guide sleeve

travel mm : 1.15

Tolerance mm : \pm 0.05

Rated speed rpm : 1040

guide sleeve

travel mm : 7.90

Tolerance mm : \pm 0.10

Rated speed rpm : 350

guide sleeve

travel mm : 2.75

Tolerance mm : \pm 0.35

Rated speed rpm : 430

guide sleeve

travel mm : 3.90

Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1100

Rack travel in mm : 16.50

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure

hPa : 700

Del. quantity

cm³/1000 strokes : 191.0

cm³/1000 strokes : \pm 1.0

Check tolerance

cm³/1000S. : \pm 3.5

M27

Speed

cm³/1000 strokes : 4.0

Check tolerance

cm³/1000S. : 7.5

CONTROL LEVER

control lever

position degree : 65.0

tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 14.50

Rated speed rpm : 1045

Tolerance 1/min : \pm 5

rack travel mm : 4.00

Rated speed rpm : 1195

Tolerance 1/min : \pm 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50

Rated speed rpm : 1300

LOW IDLE

control lever

position degree : 16.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250

rack travel mm : 8.60

Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 10.10

Rated speed rpm : 415

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 700

rack travel mm : 15.55

Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 13.25
Tolerance mm : \pm 0.05

Rated speed rpm : 500

Pressure hPa : 310
rack travel mm : 13.80
Tolerance mm : \pm 0.10

Pressure hPa : 445
rack travel mm : 15.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 142.5
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000s. : \pm 4.0

BREAKAWAY

Rack travel in mm : 14.50
Rated speed rpm : 1045
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 27.0
cm³/1000 strokes : \pm 3.0
Speed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000s. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.05.95
Test oil : ISO 4113

Combination No. : 0 401 846 826

Injection pump
Pump designation : PE6P120A320RS3178
EP type number : 0 411 826 752

Governor
Governor design. : RQV250...1025PA921
: -2
Governor no. : 0 421 813 785

Cust. part No. : 470930-P06 V. 06/92

Customer-spec. information
Customer : VOLVO-TRUCK
Motor : TD122FS
Power KW : 287.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

NO1

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 259.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 4.95

Tolerance mm : \pm 0.15

Del. quantity
cm³/1000 strokes : 20.0

cm³/1000 strokes : \pm 2.5

Check tolerance
cm³/1000S. : \pm 5.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 16.50

Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure
hPa : 1200

Del. quantity
cm³/1000 strokes : 259.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 65.0
tolerance degree : \pm 4.0

control lever
position degree : 120.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 13.05
Rated speed rpm : 1060
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1155
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 63.0
tolerance degree : \pm 4.0

control lever
position degree : 10.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.95
Tolerance mm : \pm 0.15

Rated speed rpm : 100

CRT mm min. : > 6.40

Rated speed rpm : 325

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1200
rack travel mm : 14.05
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 780
rack travel mm : 3.30
Tolerance mm : \pm 0.20

Pressure hPa : 105
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 169.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 13.05
Rated speed rpm : 1060
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 290.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

N03

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and
adjustment instructions.
See microcard(s) W400/...

Edition : 11.05.95
Test oil : ISO 4113

Combination No. : 0 401 846 938

Injection pump
Pump designation : PE6P110A32ORS3266
EP type number : 0 411 816 777

Governor
Governor design. : RQV300...1300PA996
: -1K
Governor no. : 0 421 815 278

Cust. part No. : 420803-P05 V. 03/95

Customer-spec. information
Customer : VOLVO-TRUCK
Motor : TD63E
Power KW : 133.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1 688 901 101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

NO4

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.52
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 8.60
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 780

Rack travel in mm : 10.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 105.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rack travel in mm : 5.50
Tolerance mm : ± 0.10

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 330
guide sleeve
travel mm : 1.50
Tolerance mm : ± 0.25

Rated speed rpm : 1374
guide sleeve
travel mm : 9.97
Tolerance mm : ± 0.25

Rated speed rpm : 1000
guide sleeve
travel mm : 5.68
Tolerance mm : ± 0.25

Rated speed rpm : 411
guide sleeve
travel mm : 2.64
Tolerance mm : ± 0.25

Rated speed rpm : 461
guide sleeve
travel mm : 3.10
Tolerance mm : ± 0.25

Rated speed rpm : 610
guide sleeve
travel mm : 3.59
Tolerance mm : ± 0.25

Rated speed rpm : 1483
guide sleeve
travel mm : 12.00
Tolerance mm : ± 0.25

Rated speed rpm : 1580
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1470

Rack travel in mm : 9.00
Tolerance mm : ± 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 780
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 105.0
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 54.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.40
Rated speed rpm : 1365
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1485
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1520

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

control lever
position degree : 10.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 330
rack travel mm : 5.50
Tolerance mm : \pm 0.10

Rated speed rpm : 100

CRT mm min. : $>$ 7.00

Rated speed rpm : 450

TORQUE CONTROL

Rated speed rpm : 780
rack travel mm : 10.45
Tolerance mm : \pm 0.05

Rated speed rpm : 1300
rack travel mm : 11.40
Tolerance mm : \pm 0.10

Rated speed rpm : 1050
rack travel mm : 10.90
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1300
Pressure hPa : 1200
rack travel mm : 11.40
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1300
rack travel mm : 8.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1300

Pressure hPa : 650
rack travel mm : 2.40
Tolerance mm : \pm 0.20

Pressure hPa : 130
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 125.0
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 116.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 780
Del. quantity
cm³/1000 strokes : 74.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1365
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 8.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 75.0
cm³/1000 strokes : \pm 10.0

Check tolerance
cm³/1000s. : \pm 14.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.08.95
Test oil : ISO 4113

Combination No. : 0 401 846 948

Injection pump
Pump designation : PE6P120A320RS3206-1
EP type number : 0 411 826 775

Governor
Governor design. : RQ750PA783-2
Governor no. : 0 421 801 600

Cust. part No. : 864851 P07 V. 03/95

Customer-spec. information
Customer : PENTA
Motor : TWD 121 OG

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration
damper
(RoBo diaphragm) : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

N08

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.50
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 325.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Del. quantity
cm³/1000 strokes : 20.0

cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 757
guide sleeve
travel mm : 4.85
Tolerance mm : ± 0.25

Rated speed rpm : 510
guide sleeve
travel mm : -7.81
Tolerance mm : ± 0.25

Rated speed rpm : 860
guide sleeve
travel mm : 18.06
Tolerance mm : ± 0.25

Rated speed rpm : 806
guide sleeve
travel mm : 10.00
Tolerance mm : ± 0.25

Rated speed rpm : 860
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 325.0
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 88.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.30
Rated speed rpm : 751
Tolerance 1/min : ± 3

rack travel mm : 4.00
Rated speed rpm : 786
Tolerance 1/min : ± 7

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 850

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 748
rack travel mm : 12.30

Rated speed rpm : 783
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 850

Rated speed rpm : 749
rack travel mm : 12.30

Rated speed rpm : 784
Tolerance 1/min : ± 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 850

Rated speed rpm : 750
rack travel mm : 12.30

Rated speed rpm : 785

Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 751
rack travel mm : 12.30

Rated speed rpm : 786
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 752
rack travel mm : 12.30

Rated speed rpm : 787
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

Rated speed rpm : 753
rack travel mm : 12.30

Rated speed rpm : 788
Tolerance 1/min : + 4
rack travel mm : 4.00

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 850

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.30
Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 751
Tolerance 1/min : + 3

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 20.0
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Speed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.01.86
Test oil : ISO 4113

Combination No. : 0 401 876 324

Injection pump
Pump designation : PE6P110A32ORS492
EP type number : 0 411 816 161

Governor
Governor design. : RSV200...1000P1A305
: -3
Governor no. : 0 421 833 208

Cust. part No. : P02v 151085

Customer-spec. information
Customer : VME
Motor : TD71ACE

TEST BENCH REQUIREMENTS

Inlet line : 1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 127.0

cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Rated speed rpm : 200

Rack travel in mm : 5.00
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 19.0
cm³/1000 strokes : + 3.0
Spreed
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : + 0.20
governor spring
pre-tension
click setting x : 4.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 127.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

CONTROL LEVER

control lever
position degree : 54.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.40
Rated speed rpm : 1015
Tolerance 1/min : + 5

N12

rack travel mm : 4.00
Rated speed rpm : 1065
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 17.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200
rack travel mm : 5.50

Testing:

Rated speed rpm : 200
rack travel mm : 5.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 310
Tolerance 1/min : + 30

Rated speed rpm : 100

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1015
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 200

Del. quantity
cm³/1000 strokes : 19.0
cm³/1000 strokes : \pm 3.0
Spread
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000s. : 6.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.01.96
Test oil : ISO 4113

Combination No. : 0 402 646 618

Injection pump
Pump designation : PE6P120A720RS7283
EP type number : 0 412 626 881

Governor
Governor design. : RQV300...1100PA1061K
Governor no. : 0 421 815 345

Cust. part No. : 615.60.08.0302

Customer-spec. information
Customer : SNF
Motor : WD615.46
Power KW : 266.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 14.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.40

Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 275.0

cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.64
Tolerance mm : + 0.10

Rated speed rpm : 1187
guide sleeve
travel mm : 10.71
Tolerance mm : + 0.10

Rated speed rpm : 829
guide sleeve
travel mm : 7.03
Tolerance mm : + 0.25

Rated speed rpm : 314
guide sleeve
travel mm : 1.82
Tolerance mm : + 0.25

Rated speed rpm : 364

guide sleeve
travel mm : 2.41
Tolerance mm : + 0.25

Rated speed rpm : 490
guide sleeve
travel mm : 3.67
Tolerance mm : + 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1200

Rack travel in mm : 13.00
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 275.0
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.40
Rated speed rpm : 1145
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.60

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.40
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 12.50
Tolerance mm : \pm 0.10

Rated speed rpm : 950
rack travel mm : 14.20
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 13.80
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 12.80
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 14.40
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100

rack travel mm : 10.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 890
rack travel mm : 13.45
Tolerance mm : \pm 0.05

Pressure hPa : 450
rack travel mm : 11.40
Tolerance mm : \pm 0.10

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 262.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 196.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 120.0
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 15.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.01.96
Test oil : ISO 4113

Combination No. : 0 402 646 643

Injection pump
Pump designation : PE6P120A720RS7283
EP type number : 0 412 626 881

Governor
Governor design. : RQV300...1100PA1061
: -1K
Governor no. : 0 421 815 377

Cust. part No. : 615.60.08.0282

Customer-spec. information
Customer : SNF
Motor : WD615.44
Power KW : 236.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1 688 901 105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N18

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 14.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.10
Check
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.10

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 239.0

cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000s. : \pm 4.0

Spreed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10

Tolerance mm : \pm 0.10

Del. quantity

cm³/1000 strokes : 16.0

cm³/1000 strokes : \pm 3.0

Check tolerance
cm³/1000s. : \pm 6.0

Spreed
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000s. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.64
Tolerance mm : \pm 0.25

Rated speed rpm : 1171
guide sleeve
travel mm : 10.51
Tolerance mm : \pm 0.25

Rated speed rpm : 823
guide sleeve
travel mm : 6.98
Tolerance mm : \pm 0.25

Rated speed rpm : 314
guide sleeve
travel mm : 1.82
Tolerance mm : \pm 0.25

Rated speed rpm : 364

guide sleeve
travel mm : 2.49
Tolerance mm : \pm 0.25

Rated speed rpm : 480
guide sleeve
travel mm : 3.56
Tolerance mm : \pm 0.25

Rated speed rpm : 1390
guide sleeve
travel mm : 13.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1250

Rack travel in mm : 13.00
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 239.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000s. : 9.0

CONTROL LEVER

control lever
position degree : 120.0
tolerance degree : \pm 4.0

RATED SPEED

rack travel mm : 12.10
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 73.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.10
Tolerance mm : \pm 0.10

Rated speed rpm : 200

CRT mm min. : $>$ 7.60

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.10
Tolerance mm : \pm 0.05

Rated speed rpm : 500
rack travel mm : 11.30
Tolerance mm : \pm 0.10

Rated speed rpm : 950
rack travel mm : 12.90
Tolerance mm : \pm 0.10

Rated speed rpm : 800
rack travel mm : 12.60
Tolerance mm : \pm 0.10

Rated speed rpm : 650
rack travel mm : 11.70
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1100
Pressure hPa : 1200
rack travel mm : 13.10
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1100

N20

rack travel mm : 10.60
Tolerance mm : \pm 0.10

Rated speed rpm : 1100

Pressure hPa : 690
rack travel mm : 12.40
Tolerance mm : \pm 0.05

Pressure hPa : 430
rack travel mm : 11.20
Tolerance mm : \pm 0.20

START CUT-OUT

Rated speed rpm : $>$ 100
Rated speed rpm : $<$ 220

Check
speed 1/min : $>$ 80
Check
speed 1/min : $<$ 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 221.0
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000s. : \pm 6.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 196.0
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000s. : \pm 4.0
Speed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Del. quantity
cm³/1000 strokes : 120.0
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm³/1000 strokes : 16.0
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.03.94

Test oil : ISO 4113

Combination No. : 0 402 646 646

Injection pump

Pump designation : PE6P130A1320/5RS7334

EP type number : 0 412 636 826

Governor

Governor design. : RQV350...900PA760-1

Governor no. : 0 421 813 617

Cust. part No. : 76.61.028

Customer-spec. information

Customer : GUASCOR

Motor : F180, F360 T/TA

Power KW : 338.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40

Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : ± 0.1

Test nozzle holder assembly

: 1 688 901 019

Opening pressure bar

: 208.5

Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : ± 1.0

Prestroke mm : 4.45

Tolerance mm : ± 0.05

Check

tolerance mm : ± 0.10

Rack travel in mm : 10.50

Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : ± 0.30

Check

tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.35

Tolerance mm : ± 0.05

Del. quantity

cm³/1000 strokes : 300.5

cm³/1000 strokes : ± 1.5

Check tolerance

cm³/1000s. : ± 5.0

Spreed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rack travel in mm : 5.30
Tolerance mm : ± 0.20

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.62
Tolerance mm : ± 0.25

Rated speed rpm : 957
guide sleeve
travel mm : 8.57
Tolerance mm : ± 0.25

Rated speed rpm : 469
guide sleeve
travel mm : 3.42
Tolerance mm : ± 0.25

Rated speed rpm : 519
guide sleeve
travel mm : 4.07
Tolerance mm : ± 0.25

Rated speed rpm : 720
guide sleeve
travel mm : 5.69
Tolerance mm : ± 0.25

Rated speed rpm : 1150
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 950

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900

N23

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 300.5
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 5.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 61.0
tolerance degree : ± 4.0

control lever
position degree : 117.0
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.35
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1050
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 67.0
tolerance degree : ± 4.0

control lever
position degree : 12.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.30
Tolerance mm : ± 0.20

Rated speed rpm : 250

CRT mm min. : > 6.60

Rated speed rpm : 425

BREAKAWAY

Rack travel in mm : 12.35
Rated speed rpm : 945
Tolerance 1/min : \pm 5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.07.92
Test oil : ISO 4113

Combination No. : 0 402 646 967

Injection pump
Pump designation : PE6P130A720RS7150
EP type number : 0 412 636 808

Governor
Governor design. : RQV250...900PA881-1
Governor no. : 0 421 813 982

Cust. part No. : 864988-P03 27.02.96

Customer-spec. information

Customer : PENTA
Motor : TAMD 162 C

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1 688 901 019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1 680 750 025

Outside diameter : 8.0

x inside diameter : 2.5

N25

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.65
Tolerance mm : ± 0.05
Check
tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 336.0

cm³/1000 strokes : ± 1.5

Check tolerance
cm³/1000S. : ± 5.0

Speed
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 4.20
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 19.5
cm³/1000 strokes : + 2.5
Check tolerance
cm³/1000S. : + 5.0
Spreed
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.10
Tolerance mm : + 0.20

Rated speed rpm : 925
guide sleeve
travel mm : 7.70
Tolerance mm : + 0.10

Rated speed rpm : 350
guide sleeve
travel mm : 2.30
Tolerance mm : + 0.30

Rated speed rpm : 700
guide sleeve
travel mm : 4.80
Tolerance mm : + 0.30

Rated speed rpm : 985
guide sleeve
travel mm : 8.60
Tolerance mm : + 0.20

GUIDE SLEEVE POSITION

Rated speed rpm : 980

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 336.0
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 5.0
Spreed
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

CONTROL LEVER

control lever
position degree : 118.0
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.50
Rated speed rpm : 930
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1000
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1100

LOW IDLE

control lever
position degree : 67.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.20
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 5.70

Rated speed rpm : 300

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.55
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.20
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 350
rack travel mm : 9.50
Tolerance mm : \pm 0.10

Pressure hPa : 665
rack travel mm : 11.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 228.0
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 5.0

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 930
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm³/1000 strokes : 19.5
cm³/1000 strokes : \pm 2.5
Check tolerance
cm³/1000S. : \pm 5.0
Speed
cm³/1000 strokes : 5.0

N2?

Check tolerance
cm³/1000S. : 8.0

End of test specification sheet